



# **Scaling up climate resilient flood risk management in Bosnia and Herzegovina**

## **Stakeholder Consultation**

November 2022

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## 1. OVERVIEW

The project proposal “Scaling up Climate Resilient Flood Risk Management in Bosnia and Herzegovina” was developed in close cooperation with the National Designated Authority and based on consultations with stakeholders as detailed below:

- Initial consultations 11 – 16 March 2018 which included the following stakeholders:
- Ministry of Spatial Planning, Civil Engineering and Ecology, RS, GCF NDA for B&H
- Ministry of Foreign Trade and Economic Relation, B&H
- Ministry of Security, B&H
- Ministry of Agriculture, Forestry and Water Management, RS
- Federal Ministry of Agriculture, Water Management and Forestry
- Public Institutions “Waters of Srpska”
- Water Agency for Adriatic River Basin
- Hydro-meteorological institute
- Hydro Power Plants
- Detailed discussion on project development - 24 Jul 2018
- National workshop on Idea Note – 27 Sept 2018
- Validation workshop - Concept note – 05 Feb 2019
- High level consultations following Concept Note validation workshop – 06 Feb 2019
- Validation workshop – Full proposal – 16 Oct 2019
- High level consultations following Full proposal validation workshop – 06 Dec 2019
- Opinions and comments of representatives of BiH municipalities/local communities, 2019

To initiate development of the Idea Note and funding proposal, a UNDP-GEF technical mission was undertaken in March 2018. During the mission consultations with the key national and regional authorities and a meeting with B&H GCF NDA have been conducted. The NDA, as well as other relevant institutions in charge of environment and water/flood management expressed an interest in developing a new GCF project proposal with UNDP on flood risk management based on the outcomes of the existing Vrbas River project. On 18 June 2018, the NDA issued a No-objection Letter confirming that: a) the governments of B&H have no-objection to the project as included in the Idea Note; b) the project as included in the Idea Note is in conformity with B&H’s national priorities, strategies and plans; and c) in accordance with the GCF’s environmental and social safeguards, the project as included in the Idea Note is in conformity with relevant national laws and regulations. The NDA also confirmed that B&H national process for ascertaining no-objection to the project as included in the funding proposal had been duly followed.

Further consultations were conducted with all key stakeholders in July and September when the Idea Note was presented and finalized at joint workshops. The Project idea was also presented in detail to the Project Boards of Vrbas and NAP projects consisting of GCF NDA and representatives of the ministries in charge of water management and environment. The development of the Concept Note has been further informed by discussions with relevant institutions (NDA, ministries in charge of water management, water agencies and hydro-meteorological institutes).

## 2. INITIAL CONSULTATION WITH KEY NATIONAL STAKEHOLDERS, GCF PROJECT DEVELOPMENT MISSION – BiH 11TH – 16TH MARCH 2018

The overall aims of the consultations were as following:

- To gain an understanding of the current status of the institutional frameworks and capacities for FRM

- To determine requirements to strengthen FRM and identify national priorities
- To gain an understanding of previous and ongoing projects/programmes/initiatives on FRM and identify areas for cooperation and synergy in line with the proposed project outcomes, to ensure synergy and avoid duplication/overlap of effort
- To identify necessary data for the development of the project proposal
- To identify potential co-financing

**Meeting with Bosko Kenjic - Head of Water Resources Department, Ministry of Foreign Trade and Economic relations, B&H**

The meeting with WRD discussed several ongoing projects and their contribution to FRM in B&H and included:

- Mainly soft technical assistance projects:
- Sava project - Improvement of Hydrometric network and structural measures (EIB 55 Million Euros to be increased to 74 Million)
- Spreca project –implementing project on river banks in two different entities
- Drina – 24 Million USD. Dyke in Drina
- WBIF project FRM Mapping - LiDAR surveys to start in the Spring, completion of mapping expected by 2019
- EPA 2016 - Flood management Plans – expected to be completed by 2021; Project document to be developed for flood protection with EC; Financing to be provided by loans and/or grants to be obtained from WBIF or other
- Adriatic Sea - No significant projects there;
  - Hydrometric network to be done jointly with hydropower – biggest HP potential is in the Adriatic Sea basin, plans to strengthen the hydrometric network
  - Modelling capacity for karstic geology linked to the hydropower is limited and there is limited understanding of the groundwater systems in the basin. In Adriatic Sea basin, CC impacts not yet analysed. Modelling is needed for this.
  - Link to agriculture – with WM
    - Several karstic fields
    - Most important is delta of Neretva River
    - Link to flood protection and water supply
    - Agriculture strategy envisages extensive extension of the irrigation network
  - Need legal framework improvements – likely to be pushed from EU
- WB preparing a GCF proposal for Sava Basin for Rehabilitation of Sava navigation, which may include flood protection and rehabilitation of wetlands
- Assessment of cost for implementation of all water related EU directives
  - An estimated 700 Million is needed for EUFD
  - 2.2 Billion for urban waste water treatment directive
- 900 Million for Drinking water directive
- National Hydrometric Network – Note that Hydropower companies have extensive networks that are sometimes shared with entity Hydromet (particularly in Adriatic Sea basin). There is a need to harmonise the HPP network and national hydrometric networks, and ensure the legal and technical frameworks are in place for the sharing of hydrometric data.
- Mr Kenjic highlighted the following benefits of the Vrbas project - Institutions are all onboard, project meets the needs of the institutions, work is well received, actions from Vrbas are being replicated in Una-Sana and other basins.

**Meeting with Almir Beridan, Ministry of Security and Aida Hadzic Hurem, UNDP DRR project manager**

- Discussed the existing institutional arrangements and limitations with regard to disaster risk management. Systematic risk reduction measures are lacking as is the laws with enforcement and enabling environment. There is a lack of training centres for emergency response
- The recovery needs assessment following the 2014 floods refers to the needs of the country to undertake risk assessment studies (hydrological and geological studies, exposure assessment), hazard maps, event documentation, torrent and landslide databases
- Damage and loss recording: Disinventar database is being implemented through IPA project on Disaster Risk and Preparedness Mapping<sup>1</sup> and there is an additional need for a common methodology for damage and loss data collection. In Bosnia and Herzegovina there are specific maps created and used by different institutions (e.g. the Water Agency) but there is no national mapping combining different hazards or atlas in electronic form available in the country. The Ministry of Security recognizes the need for developing a national risk atlas which would not only help the civil protection activities during disaster response but would help as well the drafting of legislation in the field of protection and rescue in Bosnia and Herzegovina<sup>2</sup>.
- The objectives of priority axis 5 "Environmental risks" of the EU Danube Strategy are mainly related to developing a flood management plan for the whole river basin, climate change related impacts on risks, further strengthening of the early warning tools, strengthening operational cooperation among civil protection authorities in the Danube countries, etc. The Strategy aims at aligning existing funding to its objectives and has no additional dedicated funding mechanisms created for its implementation.
- SEERISK project "Joint Disaster Management risk assessment and preparedness in the Danube macro-region" which is co-funded by the EU and a consortium of 20 project partners representing 9 countries<sup>2</sup>. The consortium is coordinated by the National Directorate General for Disaster Management (NDGDM) from Hungary. One of the main aims of SEERISK is developing and testing a Common Risk Assessment Methodology for the region of which the most tangible outcomes are risk assessments and maps for 6 pilot areas.
- The International Sava River Basin Commission (ISRBC) aims at establishing sustainable water management. Both the SEERISK and ISRBC are in process or have already produced local flood risk assessments and maps which should be integrated in the work of the current Action Programme.
- Disaster risk assessment methodologies for different hazards are being developed for B&H. Vrbas project is also introducing disaster response.
- Disinventar Sendai regional project – Swedish Civil Protection customised for each country - 3years and 2.5 Million
- Global Risk Assessment (GRAS) tool is currently used for B&H. Risk methodology for floods is prescribed by entities, but is largely based on previous floods, but where detailed flood hazard and risk modelling and mapping has been done (Vrbas) these maps are used in the GRAS system. The tool is customised and includes 3 modules (hazards, objects at risk and vulnerability category).
- Priorities (Currently MoS role in DRR is only that of a coordination mechanism from the national level. Responsibilities include acceptance of in-kind goods for DRR and working with international community with respect to response
  - DRMP needs to be developed for institutions for different types of disasters
  - Training centres for protection and rescue need to be put in place and will require an inclusion in the law for their establishment. This will improve training for CP response
  - Risk assessment for all hazards need to be completed.

## Meeting with Damir Mrdjen, Head of Water Agency, Adriatic basin and Ivan Metkovic

<sup>1</sup> [https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/pdf/financial\\_assistance/ipa/2015/multi-country/ipa\\_ii\\_2015\\_038-052.08\\_mc\\_disaster\\_risk.pdf](https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/pdf/financial_assistance/ipa/2015/multi-country/ipa_ii_2015_038-052.08_mc_disaster_risk.pdf)

<sup>2</sup> Austria, Slovakia, Hungary, Croatia, Serbia, Romania, Bulgaria, Slovenia and Bosnia and Herzegovina

- Sequence of HPPs built up to the 1980s with HP generation and flood protection as their main function
- Licences related to operation of the HPs include definition of low- and high-water levels
- In 2010, there was a flood event, which was not as severe as the 2014 flooding. 500-year flood event occurred
- Cooperation with the HPPs allows them to decrease the peak and reduce flooding d/s of Mostar
- Cooperation with HPPs represents conflict of interest but the WA finds ways to enforce licence for multi-use of the reservoirs
- Historical data on flooding - Prepared PFRA in accordance with EU. Need to continue to flood hazard and risk mapping; activities are slow and no hazard or risk mapping done as yet (WBIF and EPA 16 projects delayed to 2019 for flood hazard and risk maps and 2021 for FRMP completion).
- Urgent requirements include:
  - Enable daily flood management through model (FFEWS) and decision support. As part of Sava project, finalising FFEWS platform. HMS models are connected to the FFEWS
  - 2012-2013 project to develop hydrological and hydraulic model and DSS based on freeware – HecRAS and HecHMS was done. Would like to upgrade to Mike modelling (like rest of country)
  - Technical capacity barriers – Staff shortage, staff retention, lack of user-friendly modelling and management tools (want identical systems in both entities).
- Climate change
  - Significant variation in power generation from 2 Billion KWH 2010 to 4.5 Million KWH in 2013. The basin is predicted to have more frequent drought (Drought in 2007). Higher drought conditions will be accompanied by higher variability and higher peaks in floods
- HPP minimum levels
  - In 50s to 80s for Nevreta, minimum discharge was derived. After last HPP built 50 m<sup>3</sup>/s – higher than minimum biological discharge for WQ was defined.
- Gauging stations
  - WA's receive real time data from HPP stations which is used in hydrological model - Data from last 2 days. Croatian data provides prognostic model runs based on Aladin Met Model, checked in 1D hydrodynamic model
- Additional hydrometric stations needed?
  - Trebisnjica tributary needs to be integrated into model
  - Groundwater monitoring and modelling is needed
- Karst
  - Partly monitored through springs but no detailed monitoring or research in 50 years. Need to do joint programmes with RS and FB&H
  - Need groundwater monitoring but can't say without analysis of the area. Potential for additional monitoring
- Infrastructure/structural measures
  - Urgent requirement after floods of 2014 after which 'no regret' measures were considered. Including 1) Sava protection; 2) Hydro protection measures; 3) Non-structural measures (space for rivers). Structures built in d/s in the 1950s and 60's need to be rehabilitated and maintained. Suggests non-structural measures like floodplain policy/flood risk zones and cleaning of river beds.
- Cooperation with HPP's
  - Adriatic Basin WA signed a protocol with HPP for data provision from certain stations
  - As an agency they ensure water operating permits which are periodically reviewed are only reissued if obligations for flood protection (and other obligations) have been met
- Regulation of flood alleviation obligations of HPP - Operating curves (which shows the monthly maximum water levels to be attained), were defined only once 30 years ago and have not been renewed since. They have been trying to get the HPPs to update these operating rules.

## Meeting with Branko Colic, Head of Water Agency Department for Trebisnjica and Vedran Furtula, Hydro power company Trebisnjica

- River Basin Management
  - Cooperation with Neretva Basin via Mostar
  - Project 2006-2018
    - Component 1 – Development of hydrological model for Neretva and Trebisnjica and training of HPP system for floods
    - Model is project output
    - Would like a model for reservoir management for Neretva and Trebisnjica reservoirs to include operating rules for reservoirs
  - Joint project for management for guidelines on how to create water permits for reservoirs – covers instruction for all flow conditions
  - Instructions for droughts, normal and flood conditions to be provided to HPPs to operate, and Adriatic Sea commission and WA's to manage and monitor compliance.
  - Operating licences are issued every 5 years and are related to all aspects to operation
  - Want a project to develop new guidelines and new rules for operating dams
  - Need to further develop model to help improve the surface water model
  - Trebisnjica is the only perennial river (for 60km)
  - Karst hydrology applies for the rest of the basin. Water drains into fields and emerge downstream. 10km is natural, 46 Km is concreted and becomes channel into HPP. Need to understand groundwater regime in the basin.
- Priorities for Neretva
  - Monitoring of GW required
  - Monitoring of SW will be developed
  - Need to update hydrological models to include GW. Models currently based on SW data from the 60's to present.
  - Had 260 days of flooding in Popovo field in the past. New HPP has reduced this type and duration of flooding.
  - Need to monitor fields in d/s
  - GEF project was supposed to set up GW monitoring, but the project only produced recommendations for GW monitoring, but no monitoring system as set up.
  - Second phase of the GEF project – EKARST project.
- Needs
  - 2<sup>nd</sup> phase of Dubrovnik HPP should be built. To include inlet building, feeding (?) station and machine room (already installed). Will improve FRM d/s
  - No investment plans are in place for this, but technical design reports based on 1968 designs available! Cost will be 150 Million Euros
- Non-structural measures:
  - 1,200 m<sup>3</sup>/s is the overflow capacity of last overflow dam above the city. There are 8km of natural river through the city
  - Without flooding the channel capacity was 500m<sup>3</sup>/s through the city centre with no damages, Floodplain encroachment resulted in channel capacity being reduced to 390 m<sup>3</sup>/s. The 100-year peak discharge is 1,500 m<sup>3</sup>/s. Trebisnjica flooding is mainly from surface water or pluvial flooding
- Reservoirs are operated to flood Popovo fields and protect coastal city – Metkovic
- Update of reservoir operating model which sets the rules for operation is needed.
- Possible Activities:
  - GW monitoring and Modelling
  - Torrents cadastre
  - Update model



- Inclusion of WQ monitoring at Hydrological gauging stations

## **Meeting with Ms. Hazima Hadzovic, Assistant Minister for water management, Ministry for Agriculture, Water Management and Forestry, Federation of B&H**

- Needs
  - 2<sup>nd</sup> Category water courses
  - EWS for Adriatic sea in line with Sava River Basin system
  - Information from agencies
    - 2<sup>nd</sup> category water courses responsibility of cantons and municipalities
    - They have a list of 2<sup>nd</sup> categories needing help – 40 Million BKM
  - Detailed review of figures required because some have been addressed
  - EWS priority - for torrential watercourses
- Action Plan for floods Protection after 2014 provides the following recommendations:
  - Reconstruction of current flood protection structures – already secured by WBIF and ERB and already working on Sava and Drina (also in Tuzla).
- FP plan for B&H needs to include urban flood risk assessment methodology. Cities do not currently have adequate assessments. Data for urban flood risk assessment does not exist
- MoAWMF, FB&H would like to first do FRMP (2021) then see what the measures would be implemented
- Flood protection, reduction of flooding to agricultural land
  - Would like measures to reduce flooding and pollution or improve methods to rehabilitate agricultural land after floods are needed
  - Wastewater treatment is also needed as it relates to pollution of agricultural land (this is outside the scope of the proposed GCF project)
- Hydrometeorological Institute in Slovenia developed hydrological model of Bosna and based on that has suggested EWS equipment and system for Bosna. To be financed by EC – 0.9 Million Euros
- Hydrometric Equipment Maintenance
  - Funded through law on water in B&H. Money for maintenance is given to HMIs
  - Based on list of equipment to be acquired, they can provide funding that will be required for 20 years once equipment ownership is decided (HMI's or WA's)
  - Equipment should be owned by the HMIs and should be financed, operated and maintained by them
- Structural measures
  - Wants to do works that fit into the Flood Risk Management Plan
- Damages and losses recording
  - D&L databases held by WA's and reports sent to Ministry.
  - Municipalities CP will likely have LoL and D&L data on floods
  - Reparation activities for consequences of floods
  - Damages for floods 2015 WMP 2010-2014 – Some protection mentioned
  - Programme of Approximation EU – Adopted B&H Activities
  - PDNA – Single document for B&H. Provides economics damages figures
- The Ministry only has 6 staff in WM and capacity is severely limited.
- Eco-system based approaches
  - Deforestation leading to increased landslides, soil erosion and flooding
  - Poor agricultural practices are exacerbating the problem of soil erosion
  - Need to include EbA as part of the solution
- Also suggested that there is a need to work with communities where flooding is frequent but not significant, hence damages are frequent (annual). There is a risk that they might be neglected.



## Meeting with prof. Radislav Tomic, local expert on flash flood and torrents, Faculty of Natural Sciences

- Torrents historically have not been studied, so no cadastre or mapping of torrents exists
- Problematic streams are managed by small scale structures but there needs to be rehabilitation and maintenance
- Floods of 2014 revealed the danger of torrents
- Interventions currently applied – cleaning of riverbeds and reduction of risk on main river courses (which the torrents feeds). This is not enough
- Need to identify torrent streams
- Until the 1990's, measures have been put in place in riverbeds, many are in disrepair
- When people migrated due to war, sediments were not used during that period (no aggregate mining) for local road construction etc. Hence vegetation and sediment built up and these are mobilised in heavy floods
- In Bosnia local streams normally cause flooding first
- Under the Vrbas project, Prof Tomic developed a methodology to identify torrential watercourses and prepared susceptibility model
  - Indicators are used to identify where torrential floods may occur and where to focus risk reduction works.
  - Prepared soil erosion maps – developed with DEM, landuse, geology
  - Then register of torrent maps (based on physical criteria of slope, length of flow, time to peak of catchment etc.)
  - Methodology for registering of torrential streams finalised
  - 8 categories of torrential streams have been developed based on geology, geomorphology etc.
  - Categorised streams
    - If undermining, work needs to be done in riverbed
    - If overtopping interventions are structural
  - Each stream was ground-truthed and the register includes photos of each
  - Consequence of torrents in the deposition of sediments on agricultural land
- What next for methodology
  - FB&H has no erosion maps
  - RS has an erosion map but apart from Vrbas it doesn't have a torrents cadastre
  - Initiated a meeting with Institutions and gave a presentation of the project achievements
  - The methodology was accepted by all and they would like to adopt in both entities
- Needs
  - Monitoring of torrential floods to understand the amount of precipitation that would initiate torrential floods. Therefore, need denser meteorological network
  - Prioritisation of interventions with respect to risks to infrastructure, people, agricultural losses etc.
  - Need to analyse the damages and losses from torrential floods. Municipalities may have information on damages from flash floods from torrents. Once torrential flood hazard mapping can be developed a more comprehensive study of the damages and losses that can occur, would be done
  - Awareness raising. In 2014, if a map of torrents was available, evacuation on the basis of risks from torrents could have been provided. There needs to be awareness raising of communities who might not know that they are living in a torrential flood risk area.

## Meeting with Darko Borojevic, Head of Hydrology department, Hydro-meteo institute, Republika Srpska

- Key points for discussion:
  - Feedback on Vrbas project
  - Maintenance of stations
  - Information exchange with other users/stakeholders/beneficiaries
- In RS a commission is formed by HMI and WA with the intention that HMI will run the hydrological forecast models.
- Climate advisories for agriculture
  - Regular bulletins for farms 7-15-30 days forecast provided
  - Forecasts for plant disease provided to department of agrometeorology
  - Seasonal forecast done through a single system with SEECOP and METCOF by big centres in Belgrade
  - ECMWF – B&H to become a member by end of this year
  - HMIs should focus on data sharing and exchange on behalf of B&H. HMIs is focal point for Meteoalarm
  - Services provided by RS hydromet costs 25,000 Euros annually
- Hydropower sector
  - Only information from Trebisnjica system (precipitation forecast) is used
- HMI – RS signed data exchange management policy
  - Sava platform established a HIS (server in Sava commission)
  - Data exchange is in real time from all HMIs from all stations in the Sava basin and data is visible to all
  - Una-Sana hydrological forecasting is done. Model is run in Croatia
  - Establishing monitoring network for Bosna river
- EFAS – B&H is new member. Provides single warning email per event. HMI obliged to follow up
- WMO Membership
  - B&H is a member but there is a problem with the permanent representative (retried)
  - Trying to find new PR but presidency is postponing the decision
  - Any support from WMO?
    - Only EUMETSAT – supposed to get programme for receiving satellite maps. Only Federation HMI participated
- Projects
  - WMO multi-hazard EWS for SEE with WB seed money. UNDP participated in last meeting.
  - Implementation will be 2020-2022 operational by 2025
- Data and quality of data
  - Carpathi EU programme
  - Carpathian countries only. RS HMI participates
  - Goal was validation of met data and linking missing data
  - The project output is gridded data on 10x10m grids. Climatological data – spatial data
  - Important for mission data as can fill in.
  - MISH and MASH Uni of Hungary
  - Data used includes data from Serbia and other countries
  - Spatial data was likely created using geostatistical analysis from stations to produce the gridded data
- What's needed for the rest of B&H
  - Hydrometric network is complete within their capacity to manage!
  - No need for additional equipment

### **Meeting with Cedimir Stojanovic, Assistant Minister for Water Management - Ministry for Agriculture, Forestry and Water Management RS (current EIB loan disbursement)**

- Investment in flood defence

- No Infrastructure in 30 years, then lots of funding following the 2014 floods
- By 2022 - 100 million would have been invested from loans
  - EIB – 55 million
  - WB – 13.8 million
  - WB – 3.X Million
  - Solidarity fund (RS) – 28 million
  - Waters of RS – 10 million BKM for maintenance
  - WBIF – Drina, Bosna. Need funding for Sava (canal network).
- Funds needed for flood protection
  - Huge portion of Bosna (Modrigca and River mouth)
  - Spreca River also un-regulated
  - Small torrential streams (flash floods)
  - HPP – led by min of industry
- IWM principle
  - Nexus of water and water energy, food production, land management, irrigation and WQ protection
  - Of interest – Navigable part of the Sava. Requires transboundary cooperation
- Priorities
  - Bosna, Una-Sana, Direct Sava
  - Neretva, Trebisnjica
  - Need to apply IWM principles to management of these
  - Irrigation is important
  - Plans for multi-purpose reservoirs in Vrbas
  - Defined strategic documents (WS< FM, Irrigation)
  - Irrigation, FP, and erosion protection plans in WA
  - Technical documentation is in place for canals etc, 20 Million BKM cost. Canal is partly piped.

### **Meeting with Boris Pasalic, Ministry for Agriculture, Forestry and Water Management RS, Assistant minister, focus on agriculture**

- Emphasis in WM but agric. component
- Since 2015 only 2016 was normal from agriculture perspective (2013 and 2015 drought). 2014 flood was a huge problem for RS, resulting in significant agricultural losses.
- In 2017 losses of Million Euros Agric. – 50 Million Euros, while agriculture budget is 39 Million Euros
- Farmers expect compensation so avoidance of such damages from flood and drought events would be preferable
- Activity led by Ministry related to reporting forecasting services
  - Farmers using pesticides without need (based on calendar or phase of plant development). They want them to use pesticides only when there is a risk of infestation
  - RS and UNDP developed system of - 50 Met stations in RS with forecasts given for when infestation will occur; software developed and launched in March 2019 (Carpo), will reduce pesticides use and costs and will improve soils
- Agric Infrastructure with potential FP and drainage benefits or at risk from flooding
  - Activities funded by WB (MoA)
  - Finalising preparation of Drina levee
  - Irrigation system - Potkozarje Region – Gradiska Municipality, 125 hectares to be irrigated by mini hydropower plant (multi use) system, 1 million -1.5 million m3/s of water to provide elec for production
  - So far preliminary designs have been completed for Lubina reservoir

- 3 more to be built (IDP project) but won't have money for all 4 reservoirs already designed, there is a funding requirement of 12 million BKM and remaining 3 (outline cost). Limitation is that they can only build 15m high dams so opting for 15m or less. In Lubina could build 30m high dam but d/s settlement would not accept
- Project by Min in design phase – Borna-Osorna Canal – designed in region of Lijeve field. Huge areas of fertile soil. Channel will give irrigation for 8,000 ha funding
- Design completion showed high costs
- Other activities
  - 4.5 million Euros project in Bratunac municipality
  - Trebisnjica and Lubina Irrigation
  - In RS only 7% of land is irrigated. Project will result in 14-15% irrigated
  - Vrbas/Sava basin - Canal in Vrbas
  - Fishing Master Plan - RS is obliged to map rivers and streams for biological basis – biodiversity; Needs funds (public call for 250-350K)
  - Agricultural extension services - 7 department branch units; 70 people (ministry employees volunteering time) working with farmers providing assistance and incentive measures; Additional training needed – CPD for staff would be useful
  - Hydrometric network - 50 stations; funds available for maintenance, always need to increase network; need pest traps with gauging stations. Pests stick to gauging station and can be counted. Forecasts based on this.
  - Drought analysis - Implementation of EPA project; support to HMI – monitoring drought – have equipment but not people on the ground
  - Agro-forestry - Forest sector with public RS company do use agro-forestry for erosion prevention, relevant only to Herzegovina; well established wind breakers; UN Combat of deforestation; GEF project; regular budgetary funds
  - Agric. Extension service - Focused on development of irrigation systems in high production areas. Not done in drought areas without high production. Drought forecasts are based on 3-day forecast. Between December and March – (low period) workshops covering flood management topics are held. Includes providing estimates of possible flood risk and warnings to farmers. Need response after floods for clean-up and monitoring of pollution from floods. Some post event monitoring is done and production is halted. Average number of farmers at training sessions – 4,000. Flood hazard and risk maps, and specific products will be useful to enhance these activities. Lots of private (an unregulated) agriculture extension companies would benefit.
  - Ministry of Agriculture will prepare a law on regulation of AES
  - There is a 0.5 Billion export to import imbalance is due to underutilised agriculture land, which require activities that can focus on pre-conditions for agriculture to happen

### **Meeting with GCF focal point, minister Golic, Assistant minister for projects coordination Milos Jokic and Assistant minister for ecology Svjetlana Radusin**

- GCF FP highly commended the partnership with UNDP in B&H and praised results of the UNDP assistance. She underlined the relevance and importance of the recently approved UNDP/GCF project on energy efficiency/building retrofits. She stressed the negative impacts of CC in B&H with the emphasis on the devastating floods. She expressed an interest in developing a new GCF project proposal with UNDP on flood risk management based on the outcomes of the existing Vrbas River project.
- Preliminary ideas for the GCF proposal have been discussed, including potential partnership with an accredited financial institution for outreaching a combination of a GCF loan and grant.

- GCF FP expressed her support to the project development and highlighted the need to conduct additional consultations with the line ministries of both RS and FB&H, in particular with regard to the priority structural flood protection measures and the potential to borrow from GCF.
- The parties agreed that the mission will result in a formulation of a brief GCF project idea to be shared and discussed with the GCF FP Office and other national and sub-national stakeholders.

### 3. PRESENTATION OF THE IDEA NOTE - 24 JUL 2018

Following the discussion with the GCF NDA who further supported the project activities, it was agreed that the Project Idea be presented to the water sector in Bosnia and Herzegovina.

The meeting was opened by the Assistant Minister for Water Management, Environment and Tourism at the Ministry of Foreign Trade and Economic Relations, Ms. Brankica Pandurevic and attended by representatives of all institutions responsible for water management: Ministry of Foreign Trade and Economic Relations, two entity ministers in charge of water management, three water agencies and two hydro-meteorological institutes.

Project idea was presented in detail and draft Idea note was given to all participants.

The meeting agreed that the Idea note reflects conclusions of consultations which were held in Mar 2019. Comments to the Idea note were submitted by the end of Aug 2018 and re-discussed in Sept 2018.

### 4. IDEA NOTE ACCEPTANCE MEETING - 27 SEPT 2018

The meeting was attended by representatives of the relevant institutions from the water management and environment sectors.

Dr. Margaretta Ayoung, Chief Technical Advisor, presented in detail the project idea Scaling up climate resilient flood risk management in B&H, which was updated with stakeholders' input submitted after the meeting held on 24 Jul 2018.

The project will seek to address the climate risk and vulnerabilities by removing the barriers described above through the three project Outputs. GCF technical assistance funds will be invested in enhanced public goods and will be blended with non-grant IFIs' and private investments into structural flood protection measures.

The project outputs and activities are as follows:

#### **Output 1: Fully integrated impact-based Flood Forecasting and EWS facilitates timely preparation and response**

- 1.1. Upgrade and expand the coverage of the hydrometric network for enhanced monitoring of climate variables.
- 1.2. Enhance climate-induced flood hazard, risk and vulnerability information for strategic risk management and sound decision making for climate induced flood management.
- 1.3 Develop an integrated impact-based centralized and community-based flood forecasting and early warning system.
- 1.4. Develop and implement protocols and SoPs on data generation, data management and communication for effective impact based FFEWS and flood risk management.

**Output 2: Non-structural flood risk reduction measures and nature-based solutions mainstreamed in sectoral policies and plans and effectively contribute to protection of people and livelihoods from climate-induced flood risk.**

2.1. Mainstream climate induced flood risk reduction into sectoral planning (agriculture, hydropower, critical infrastructure) and spatial planning.

2.2 Implement and mainstream new ecosystem-based flood risk reduction and climate change adaptation methods.

2.3. Codify and mainstream EbA solutions into policies and regulations and promote non-structural measures.

2.4. Review and strengthen institutional capacity and develop long-term institutional capacity development plans for climate resilient FRM.

**Output 3: Climate-proof flood protection measures scaled-up through new and improved national and local investment frameworks increasing resilience of the most vulnerable groups to climate induced flooding**

3.1. Develop investment framework for climate induced flood risk reduction and management.

3.2. Formulate multi-year climate resilient municipal investment plans and gender responsive community preparedness plans in selected municipalities (10-12) and in one canton.

3.3. Implement climate-proof structural flood risk reduction and anti-erosion interventions in Vrbas, Una-Sana, Bosna and Drina River basins.

The Idea note was assessed as a very good one with activities which are necessary for the country and realistic results. The approach to scale up the successful results of the Vrbas project was also praised.

The meeting representatives pointed out the following:

- Project activities have to be in line with countries existing strategic documents: Flood Action Plan, Climate Change Adaptation and Low Emission Development Strategy, Approximation Strategy, Third National communications etc.
- Project activities have to be aligned with other floor risk management initiatives in the country.
- Institutions have to be involved all the time during project development phase.

Next step is development of the Concept note, which will be submitted to the stakeholders for review before the validation workshop, which is planned for the end of Jan 2019. Anticipated project value is USD 14 mil, with co-financing 1:4.

## 5. CONCEPT NOTE VALIDATION WORKSHOP – 05 FEB 2019

To have quality and substantial discussion at the validation workshop, a draft Concept note, together with pre-feasibility study was sent to all relevant institution via e-mail on 17 Jan 2019.

The workshop was attended by representatives of the relevant institutions (ministries in charge of water management, agriculture and forestry, environment, ministry of security, civil protection units, three water agencies and hydro-meteo institutes) and was chaired by the representatives of the UNFCCC and GCF focal point (assistant minister Svjetlana Radusin) and Ministry of Foreign Trade and Economic Relations (head of water resources department Bosko Kenjic).





Mr. Sanjin Avdic, EE sector leader in his opening remarks, explained next steps in project development and emphasised political and technical support B&H GCF focal point and UNDP will need for the project to be developed.

Dr. Margaretta Ayoung, Chief Technical Advisor, presented in detail the project idea “Scaling up climate resilient flood risk management in B&H”, which was updated with stakeholders' input submitted after the meeting held on 24 Jul 2018. Project outputs, activities and expected results were discussed.

In a discussion which followed, it was noted that water sector had been heavily criticised about their handling of floods. Although Flood Action plan provides the guidelines to improve the water sector, criticism has been received about Action plan delay. Participants agreed that Action plan has been delayed due to lack of resources, but also due to lack of data, capacities, policies and also delay in development of the technical documentation such as flood hazard and risk maps for the rest of the country, apart from Vrbas River basin.

Mr. Almir Prljaca, from Sava River Basin agency welcomed the project and said that planned activities are in line with main issues water agencies are facing in flood risk management. The main points are: not sufficient number of HM stations; some stations are collecting data only on daily basis which is not enough for flood forecasting and early warning system; lack of quality models; there is currently inadequate analysis of peak floods used in the calibration and validation of hydrological and hydraulic models used in flood forecasting; no data for torrents cadastre; no understanding for “living with floods” approach and EbA; lack of resources for maintenance of the equipment; lack of educated personnel; lack of coordination with other sectors e.g. unplanned afforestation, spatial planning documentation which does not include flooded areas, HPPs are not included in flood risk management, no insurance for floods; poor cooperation between entities; poor public awareness etc.

Mr. Brkovic, Head of Department at the Ministry of Security commented that lack of coordination and data sharing protocol is a big issue. Duplication of efforts and activities between sectors is not uncommon.

Mr. Damir Mrdjen, Head of water agency for Adriatic river basin in FB&H, emphasised a need for cooperation with spatial planning sector and inclusion of flood lines into spatial plans, as it is crucial for flood risk management and does not exist now. He also pointed out a need for EbA measures and integrated approach to flood risk management as dykes itself are not providing sufficient flood protection. He added that situation would worsen in the future as it is impossible to only keep making dykes higher, as “1000-year waters are now 100-year waters”.

Mr. Ljuboja, deputy Head of Republika Srpska civil protection commended Vrbas project for its close links with local communities and would appreciate if the new project maintains the same level of cooperation.

Mr. Branko Colic, Head of water agency for Adriatic river basin in RS reiterated lack of investment in karst area which is prevailing in Adriatic river basin, starting with monitoring, modelling and ending with anti-flood measures. He is happy to see that the project proposal would also include karst.

Mr. Marinko Vranic and Mr. Suad Skejovic representatives of the entity ministries for water management complemented the proposed activities and gave their support. Mr. Skejovic further added that he hoped this project would function as Vrbas project.

Mr. Bosko Kenjic, Head of water resources department at the Ministry of Foreign Trade and Economic Relations concluded that with this validation workshop support to the Concept note is given. Relevant institutions gave the green light to go ahead with the development of the full proposal whose final draft is expected in the 3<sup>rd</sup> quarter of 2019.





Ms. Svjetlana Radusin, Assistant minister for ecology at the Ministry of Spatial Planning, Civil Engineering and Ecology said that her ministry, as a GCF focal point, would provide full support for further project development.

Interest of B&H authorities and public for the development of the new project is also seen via impressive media coverage which followed the validation workshop. Please see some links below:

<https://www.hayat.ba/vijest.php?id=153228>

<http://zenicainfo.ba/2019/02/06/u-pripremi-novi-undp-projekt-u-oblasti-smanjenja-poplavnog-rizika-u-bosni-i-hercegovini/>

<https://rtvbk.ba/u-pripremi-novi-undp-projekt-iz-oblasti-smanjenja-poplavnog-rizika-u-bih/>

<https://startbih.ba/clanak/u-pripremi-novi-undp-projekt-iz-oblasti-smanjenja-poplavnog-rizika-u-bih/104576>

<https://opcija.net/undp-i-domace-institucije-prijedlog-projekta-povecanje-ulaganja-u-smanjenje-poplavnog-rizika-u-bih/>

<https://www.atvbl.com/vijesti/bih/smanjenje-poplavnog-rizika-u-bih-6-2-2019>

<https://ba.ekapija.com/news/2396446/undp-radi-na-novom-projektu-razvoja-sistema-prognoziranja-i-ranog-upozoravanja-od>

<http://www.fena.ba/article/1066774/u-pripremi-novi-undp-projekt-iz-oblasti-smanjenja-poplavnog-rizika-u-bih>

<https://media.klippingmap.com/html/view?filePath=2019/02/07/48ec504b-fa0b-4a94-b07e-9541b85fd78b&language=bs&topicGroupId=8b11b255-0b19-3d6f-9f0d-0955536d7416&showHighlights=true&purpose=2>

<https://balkaneu.com/undp-helps-to-reduce-flood-risk-in-bih/>

<http://www.magic.ba/info/34-info/3623-u-pripremi-novi-undp-projekt-u-oblasti-smanjenja-poplavnog-rizika-u-bosni-i-hercegovini.html>

## 6. MEETING WITH GCF FOCAL POINT MINISTER SREBRENKA GOLIC – 06 FEB 2019

Following the validation workshop, Mr. Sukhrob Khoshmukhamedov, UNDP DRR had a meeting with Minister Golic, GCF focal point for B&H and Her Excellency again reiterated her support for further development of the full GCF proposal for “Scaling up climate resilient flood risk management in B&H” project.

## 7. FULL PROPOSAL VALIDATION WORKSHOP – 16 OCT 2019

The workshop was attended by representatives of the relevant institutions (ministries in charge of water management, agriculture and forestry, environment, ministry of security, civil protection units, three water agencies and hydro-meteorological institutes). It was chaired by the Head of Water Resources Department at the Ministry of Foreign Trade and Economic relations Mr. Bosko Kenjic.

Mr. Sanjin Avdic, UNDP EE sector leader thanked all participants for their support and active involvement in development of the project proposal and explained next steps which need to be taken to have the proposal approved.

Ms. Raduska Cupac, CC Adaptation Project Manager, reiterated that a Concept Note was submitted to GCF on 31 May 2019 and a response was received on 24 Jun 2019. She went through details of GCF review, which recommends minor changes to proceed to the next stage.

Ms. Cupac explained project management and monitoring, as well as anticipated budgetary allocations per activities, including co-financing from government and private sector. Participants welcomed the fact that water agencies are project beneficiaries.

Dr. Margaretta Ayoung, Chief Technical Advisor, presented in detail the project activities included in the full proposal *Scaling up climate resilient flood risk management in B&H*, which followed GCF recommendations, but also inputs from continuous discussions held with stakeholders in the meantime. Project outputs, activities and expected results were discussed.

The participants welcomed the project and noted that anticipated activities are in the line with needs of all BiH sectors involved in flood risk management. The presented document reflects suggestions from consultations and from previous workshop. During discussion the following was pointed out:

- Support of implementation of Existing Flood Action Plans is necessary. This need is recognized by GCF Project Proposal in many aspects: necessary resources for implementation of non-structural/structural measures, improvement of data management, building capacities of key FRM institutions, risk mapping for entire BiH
- Representatives of water agencies confirmed that anticipated project activities are aligned with main issues and challenges of FRM in BiH: need for additional HM stations providing real time data necessary for FFEWS, improvement hydrological and hydraulic models, development of torrents cadastre, introduction of “room for river” and EbA concepts, improvement of the coordination, integrated FRM approach including forest management and flood risk informed spatial planning, development of flood/natural disasters insurance scheme, enhance involvement of HPPs in FRM. Also, it is important that project anticipated work in karst areas, since monitoring, modelling and implementation flood risk reduction measures are highly needed.
- Representatives of security and civil protection sectors stressed that the proposed activities consider improvement of coordination and systems of data sharing as one of main issues related to DRR BiH. Also, they expect high level of cooperation with local communities.
- CONCLUSION: Having in mind complexity of the document itself, in order to ensure full familiarization with all details of the project proposal, it was agreed that the FP would be sent to all relevant institutions, which will be given three weeks for their comments.

Interest of B&H authorities for the development of the new project is also seen via great media coverage which followed the validation workshop. Please see some links below:

<https://ba.ekapija.com/news/2665244/u-zavrsnoj-fazi-projekat-undp-a-u-oblasti-sm njenja-poplavnog-rizika-u>

[https://www.ba.undp.org/content/bosnia\\_and\\_herzegovina/bs/home/presscenter/vijesti/2019/UNDPNoviP rojekt.html](https://www.ba.undp.org/content/bosnia_and_herzegovina/bs/home/presscenter/vijesti/2019/UNDPNoviP rojekt.html)

<https://www.dnevni-list.ba/novi-projekt-prijedlog-undp-a-u-oblasti-sm njenja-poplavnog-rizika-u-bih/>

<https://vijesti.ba/clanak/464966/novi-projekt-prijedlog-undp-a-u-oblasti-sm njenja-poplavnog-rizika-u-bih>

<https://brcko.tv/2019/?p=10485>

<http://www.fena.ba/article/1113038/novi-projekt-prijedlog-undp-a-u-oblasti-sm njenja-poplavnog-rizika-u-bih>

<http://bosnia.shafaqna.com/BA/AL/994055>



In addition to Validation workshop separate meetings were held with representatives of hydro-energy, agriculture and forestry sector to further reiterate their role in the project and links with activities related to water management sector.

**Meeting with Gordana Rokvic, Advisor to the Minister and Svjetlana Lazic, senior expert for land management – Ministry for Agriculture, Forestry and Water Management of Republika Srpska**

The meeting was held to further reiterate importance of agricultural sector in project implementation. Key points:

- Ministry is fully aware of increased flood occurrence; it happens every year.
- Extreme events of short tenure are also increasing.
- Agricultural workers are not prepared nor educated to deal with that;
- Ministry is encouraging farmers to go into insurance system but take-up is very low.
- Agricultural strategy for 2020-2025 for Republika Srpska is prepared.
- Full support to the project is given especially because it directly links floods and water management with agricultural sector.

**Meeting with Gordan Miseljc – Director General, and Aleksandar Vujic, Dy Director for System Management, Hydro Power Plant, Trebisnjica**

The meeting with HPP discussed their contribution to Project and FRM in B&H in general:

- HPP management reiterated a need for flood forecasting as it directly impacts its operations
- Precipitation regime has been changed to the extent that previous experience and approach in forecasting accumulation level, based on staff knowledge, is not working any more. Introduction of new technologies is absolutely necessary.
- Hydro-meteorological network must be enhanced. They are ready to contribute in purchase and maintenance of the equipment.
- Approach to river basin management has to be holistic.

**Meeting with Danica Cigelj, Assistant Minister for Forestry, Ministry for Agriculture, Water Management and Forestry, Federation of B&H**

The meeting was held to further reiterate importance of forestry sector in flood management and project implementation. Key points:

- Forestry and water management sectors in Bosnia and Herzegovina are not working closely enough in flood risk management
- There is a Study on Harmonisation of Forest and Water Management in Federation of B&H developed in 2011. The Study recognizes a need to harmonise planning documents in forestry and water management, reiterates a role of forest in flood management, a need for awareness raising in climate changes etc.
- A role of the forestry sector is seen especially within anti-erosion measures, but they do not have concrete project proposals.

## 8. CONSULTATION WITH REPRESENTATIVES OF BiH MUNICIPALITIES/LOCAL COMMUNITIES, 2019

During 2019, bilateral consultations were held with municipality representatives and local communities where the project will be implemented. This section summarises the outcome of those consultations.

### 8.1. Doboj Municipality

#### **Miroslav Milosevic, Head of the Civil Protection Department:**

- The City of Doboj adopted a comprehensive Flood Protection Plan a year after 2014 flood
- The plan envisages all activities to prevent water entering the city
- The construction of an embankment on Bosna river is also planned, as soon as 6 mill. KM is ensured for land expropriation.

#### **Savo Vukovic, Head of Local Community Bare**

- 5 years after 2014 floods, only 80% of the temporary embankment has been completed,
- completion is needed to permanently protect the houses in this settlement.
- Much less is invested in prevention, interventions are implemented later when damage already occurred

#### **Dragan Vasilić, Advisor of Mayor**

- To make the city safer, approx. 23 mill. KM is needed to regulate the Bosnia river bed from the confluence of Usora river to the settlement Pločnik.
- Reaction of citizens is also necessary in accordance to the Law

### 8.2. Doboj South Municipality

#### **Mirnes Tukic, Mayor**

- almost every second year city suffers from floods, no defence embankment on the Usora River
- construction of this embankment was announced after the 2014 floods, but it was not completed after five years. Riverbed also is not cleaned

### 8.3. Modrica Municipality

#### **Dusko Pejic, Head of local community Dobor**

- In May, the water was very high and overtopped embankment and flooded the entire settlement
- Existing embankment height should be raised
- Bosnia riverbed has not been cleaned, which is necessary

### 8.4. Bijeljina Municipality

#### **Mico Micic, Mayor**

- The city is threatened by floods due the risks from Sava and Drina rivers,



- City government committed to continue work on preparedness and prevention, especially in terms of institutional capacity building.
- Flood risk reduction is of the highest importance, have already implemented many projects to protect against floods
- Necessary to finish the Drina embankment, and banks enforcement
- Regulation of river bed of the River Janja will be carried out in the length of 1.8 kilometers
- Created a risk reduction center with several units that can contribute to risk and damage reduction

**Radisa Ilic, Bijeljina local community Balatun:**

- The dike must be completed. Very little is realized in recent years.

**8.5. Prijedor Municipality**

**Milenko Djakovic Mayor,**

- Sana is flooding regularly, several settlements endangered: Gomjenica, Raškovac Tukovi, Brežićani, especially urban area of Prijedor.
- In floods 2019, 1,350 households were flooded, 400 houses, six landslides were created, bridge over Sana damaged.
- To reduce or prevent future flooding several measures need to be implemented on rivers Sana, Gomjenica, Miloševica and other smaller watercourses, as well as the construction of embankments and discharge canals,
- Implementation requires significant financial means.
- Measures implemented on flood protection earlier have good results, activities must be continued to further improve such protection.

**Sead Karagic, head of local community Rizvanovici,**

- Sana river threatens the village of Rizvanovici and settlements downstream to Raskovac, Brežićani.
- the entire left and right banks of the Sana River are under risk, including the settlements Svodna and Blagaj on the route to Novi Grad
- Possible solution is to deepen the Sana riverbed and make embankments on both the left and right banks of Sana.

**Dusan Vranjes, Head of CP, Prijedor:**

- Previously implemented measures reduced the effects of the flood significantly.
- Hope that water management institutions in the RS will implement more water regulation projects in the Prijedor Municipality.

**8.6. Gradiska Municipality**

**Zoran Adzic, Mayor:**

- Project for regulation of storm water in the agro-industry zone Nova Topola implemented with the support of UNDP Vrbas project, very important for this zone, enabled further economic growth

- About 1,260,000 KM invested in the construction of the storm water collection system
- Construction of the embankment on Sava River is necessary to reduce risk for properties and agriculture.

**Toni Barisic, farmer,**

- Water from flooded canals destroys one third of the crop each year.
- The channel network has not been operational for years.

**8.7. Srbac, Municipality**

**Mladjen Dragosavljevic, Mayor**

- The Sava and the Vrbas embankment in Srbac have been severely damaged in recent years, requiring reconstruction.
- Through the UNDP BiH project "Integrating Climate Change to Reduce Flood Risk in the Vrbas River Basin", 6 km of canal network was regulated, stone embankment placed, 800 poplar trees were planted to consolidate riverbanks and protect agricultural land.
- Positive effects of implemented measures are already visible.

**Ninko Guzvic, Expert / advisor for agriculture:**

- Agriculture is very sensitive to flooding. Canal network in the agriculture area needs to be improved
- Within the project " Vrbas " regulated water streams Povelic, Ina and Kosolinac, solved flooding in the urban area of Srbac. These activities should continue to protect agricultural households and production.

**8.8. Laktasi Municipality**

**Ranko Karapetrovic, Mayor,**

- Trn settlement, the one of flood-prone areas, needs detailed analysis of river channels and culverts to plan flood risk reduction.

**Dragan Kelecevic, Officer from Laktasi municipality**

- In Laktasi municipality 80% of the population lives in the flood zone.
- Through the UNDP Vrbas project implemented measures to reduce flood risk

Goran Vujakovic, Local Development Advisor:

- After floods, citizens make pressure on the municipality for damage compensation.
- Currently, there is no appropriate natural disaster insurance package for agriculture.

**8.9. Banja Luka City**

**Mladen Cucun, Head of CP Banja Luka City**



- The floods in 2019 would certainly have caused more damage in the Banja Luka area, but also of neighbouring municipalities downstream (Laktaši and Srbac), if there had not been coordination between Civil Protection, City Administration and HPP Bocac.
- Since HPP "Bocac", greatly influences the water level of Vrbas, the cooperation and coordination with HPP is the most important for Banja Luka, since this HPP regulates the flow of water to the city to a large extent.
- Civil protection continues cleaning of small streams in the wider City area to reduce flood risk.
- The flood hazard map, developed as part of the project "Integrating Climate Change into Flood Risk Reduction in the Vrbas River Basin", accurately shows all critical areas, dividing them into high, medium and low flood hazard locations. This map is of great importance.

**Božana Šljivar, Head of Finance Department**

- A systematic approach to disasters risk, experienced in some countries, should be created as a model of mandatory flood/other natural disaster insurance.
- The adequate insurance model/product will provide adequate compensation for damage to citizens and protect budgets at all levels of government against unexpected expenditures in the event of catastrophic events

**8.10. Ravno Municipality, Herzegovina**

**Andrija Simunovic, Mayor,**

- Flood has caused tens of millions KM of damage in Popovo field so far.
- 60,000 fruit trees destroyed due to the floods.
- **Full coordination of competent ministries, HPPs and agencies is required.**

**Boris Tolimir, Director, Exclusive Lingerie Company, Banja Luka**

- Flood damage in 2014 was 0.5 mill. KM, the company was not insured
- Insurance is one of the ways companies can secure against natural disasters.

**Slavko Stevanovic, Secretary of the Association for Agriculture, Fishery, Chamber of Commerce RS.**

- Carp production has significantly decreased in the past few years due to climate issues, floods and draughts.
- In Sanicani fishpond (the largest one in BiH) the flood caused enormous damage in May 2014

## **9. MEETING WITH GCF FOCAL POINT MINISTER SREBRENKA GOLIC – 06 DEC 2019**

Following the validation workshop and comments received for the full proposal, Mr. Sukhrob Khoshmukhamedov, UNDP DRR and Mr. Sanjin Avdic, EE Sector Leader, had a meeting with Minister





Golic, GCF focal point for B&H. Her Excellency expressed satisfaction with outcomes of the validation workshop and specially with the good feedback received for the full proposal. Minister Golic provided a No-Objection-Letter and again reiterated increasing damages from floods and need for this project to be implemented.

## 10. MEETINGS WITH GCF FOCAL POINT MINISTER SREBRENKA GOLIC – 2022

Following the comments received from GCF CIC2 on 04 Mar 2022 and a request that a new Full Proposal template be used, Ms. Raduska Cupac, Energy and Environment Sector Leader had a meeting with the GCF focal point for Bosnia and Herzegovina Minister Srebrenka Golic who assigned her team lead by assistant minister Milos Jokic to be actively involved and participate in FP finalisation. Update Full Proposal was agreed upon by GCF focal point and on 11 Apr distributed to all relevant stakeholders for further consultations. As a result of successful consultations, an updated No-Objection-Letter dated 20 June 2022 was issued.

## 11. MEETINGS WITH AGENCY FOR GENDER EQUALITY AND GENDER CENTRES

Consultative meetings were held during the period September-October 2022 with Agency for Gender Equality and entity gender centres of Federation of Bosnia and Herzegovina and Republika Srpska, including a dedicated meeting with UNFCCC gender focal point for B&H Ms. Spomenka Kronic. Project activities, along with Gender Action Plan, were presented in detail. A series of meetings with local stakeholders, led by Ms. Kika Babic Svetlin, a senior adviser to the Director of the Agency, were held to discuss how to improve gender component in the Project, including GCF comments. Consultations also included 11 NGO's whose work is relevant for empowering a role of women in natural hazards and environment. These meetings resulted in the concrete input to the Gender Action Plan.

In addition, in partnership with the Agency for Gender Equality of B&H, UNDP launched Feminist Coalition for Climate Justice in Bosnia and Herzegovina on 03 Oct 2022. The purpose of this initiative is to support the establishment of a B&H owned Feminist Action for Climate Justice Coalition, which will mobilize relevant actors from among government institutions, academia and civil society to designate concrete policy actions and advocate for them. Furthermore, it will also conduct a gap analysis concerning climate mitigation, adaptation and DRR statistics to establish what data is available and what might be necessary to inform policy making in these fields, through the prism of gender. It will be also timely to connect data indicators or gap analysis results with the preparation of the 2024 Voluntary National Report on 2030 Agenda.