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Report No: PAD1734

PROJECT APPRAISAL DOCUMENT

ON A
GLOBAL ENVIRONMENT FACILITY TRUST FUND GRANT AND
SPECIAL CLIMATE CHANGE FUND

TO THE
BOSNIA AND HERZEGOVINA
MONTENEGRO
REPUBLIC OF SERBIA

US$8.732MILLION

FOR

THE WEST BALKANS DRINA RIVER BASIN MANAGEMENT (WBDRBM) PROJECT

February 17, 2016

DRAFT FINAL VERSION

Water Global Practice
Europe and Central Asia Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective {Date})

Currency Unit = US$

USD 1 = SDR 1

FISCAL YEAR

January 1 – December 31

APCU	Agriculture Projects Coordination Unit	NGO	Non-Governmental Organization
BH	Bosnia and Herzegovina	DTF	Drina Task Force
CPS	Country Partnership Strategy	MARD	Ministry of Agriculture and Rural Development
DRB	Drina River Basin	MEC	Monitoring & Evaluation Consultant
DW	Directorate of Water	PIT	Project Implementation Team
EMP	Environmental Management Plan	PMT	Project Management Team
ESMF	Environmental and Social Management Framework	RBMP	River Basin Management Plan
EU	European Union	RPF	Resettlement Policy Framework
EWS	Early Warning System	RS	Republika Srpska
FA	Financial Agreement	SAP	Strategic Action Program
FBH	Federation of Bosnia and Herzegovina	SCCF	Special Climate Change Fund
FM	Financial Management	SESA	Strategic Environmental and Social Assessment
GEF	Global Environment Facility	SOE	Statement of Expenditures
GDP	Gross Domestic Product	SORT	Systematic Operations Risk-Rating Tool
HM	Hydro-meteorological	SRB	Serbia
HMS	Hydro-meteorological services	TA	Technical Assistance
ICPDR	International Commission for the Protection of the Danube River	TDA	Transboundary Diagnostic Scan and Analysis
ISRBC	International Sava River Basin Commission	TOR	Terms of Reference
IWRM	Integrated Water Resources Management	TSU	Technical Services Unit
MAFWM	Ministry of Agriculture, Forestry & Water Management	UNECE	United Nations Economic Commission for Europe
MAEP	Ministry of Agriculture and Environmental Protection	UNESCO	United Nations Educational, Scientific and Cultural Organization
MARD	Ministry of Agriculture and Rural Development	WB	World Bank
MEC	Monitoring & Evaluation Consultant	WBIF	Western Balkan Investment Framework
MNE	Montenegro	WBDRBM	West Balkans Drina River Basin Management
MOFTER	Ministry of Foreign Trade and Economic Relations	WMO	World Meteorological Organization

Regional Vice President:	Cyril Muller
Country Director:	Ellen Goldstein
Senior Global Practice Director:	Jennifer Sara
Practice Manager:	Steven Schonberger
Task Team Leader:	Anna Cestari

BOSNIA AND HERZEGOVINA
MONTENEGRO
REPUBLIC OF SERBIA

THE WESTERN BALKAN DRINA RIVER BASIN MANAGEMENT (WBDRBM) PROJECT

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West Balkans Drina River Basin Management (P145048)

PROJECT APPRAISAL DOCUMENT

EUROPE AND CENTRAL ASIA

0000009393

Report No.: PAD1734

Basic Information		
Project ID P145048	EA Category B - Partial Assessment	Team Leader(s) Anna Cestari
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints [ ]	
	Financial Intermediaries [ ]	
	Series of Projects [ ]	
Project Implementation Start Date 31-Oct-2016	Project Implementation End Date 31-Oct-2020	
Expected Effectiveness Date 31-Oct-2016	Expected Closing Date 31-Oct-2020	
Joint IFC No		GEF Focal Area International waters

Practice Manager/Manager	Senior Global Practice Director	Country Director	Regional Vice President
Steven N. Schonberger	Jennifer J. Sara	Ellen A. Goldstein	Cyril E Muller

Borrower: Bosnia and Herzegovina - Ministry of Foreign Trade and Economic Relations			
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Borrower: FBiH Ministry of Agriculture, Forestry and Water Management			
Contact:	Semsudin Dedic	Title:	Minister
Telephone No.:	00387337265505	Email:	kabinet@fmpvs.gov.ba
Borrower: RS Ministry of Agriculture, Water Management and Forestry			
Contact:	Stevo Mirjanic	Title:	Minister
Telephone No.:	0038751338415	Email:	m.stevanovic@mps.vladars.net
Borrower: Republic of Serbia Ministry of Agriculture and Environment Protection			
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Borrower: Montenegro Ministry of Agriculture and Rural Development			
Contact:	Petar Ivanovic	Title:	Minister
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Responsible Agency: Republic of Serbia Ministry of Agriculture and Environment Protection			
Contact:	Dragana Milovanovic	Title:	Head, Department for International Projects, Water Directorate
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Responsible Agency: Bosnia and Herzegovina - Ministry of Foreign Trade and Economic Relations			
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Responsible Agency: FBiH Ministry of Agriculture, Forestry and Water Management			
Contact:	Hazima Hadzovic	Title:	Head of Water Department
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Responsible Agency: RS Ministry of Agriculture, Water Management and Forestry			
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Responsible Agency: Montenegro Ministry of Agriculture and Rural Development			
Contact:	Momcilo Blagojevic	Title:	Senior Advisor
Telephone No.:	38220482260	Email:	momcilo.blagojevic@mpr.gov.me

Project Financing Data(in USD Million)

[ ]	Loan	[ ]	IDA Grant	[ ]	Guarantee
[ ]	Credit	[X]	Grant	[ ]	Other

Total Project Cost:	8.74	Total Bank Financing:	0.00
Financing Gap:	0.00		

Financing Source	**Amount**
Borrower	0.00
Global Environment Facility (GEF)	4.37

Special Climate Change Fund	4.37
Total	8.74

Expected Disbursements (in USD Million)

Fiscal Year	2016	2017	2018	2019	2020	2021	0000	0000	0000	0000
Annual	0.24	2.60	1.50	2.90	1.50	0.00	0.00	0.00	0.00	0.00
Cumulative	0.24	2.84	4.34	7.24	8.74	8.74	0.00	0.00	0.00	0.00

Institutional Data

Practice Area (Lead)

Water

Contributing Practice Areas

Cross Cutting Topics

[X]	Climate Change
[ ]	Fragile, Conflict & Violence
[X]	Gender
[ ]	Jobs
[ ]	Public Private Partnership

Sectors / Climate Change

Sector (Maximum 5 and total % must equal 100)

Major Sector	Sector	%	Adaptation Co-benefits %	Mitigation Co-benefits %
Water, sanitation and flood protection	General water, sanitation and flood protection sector	100		
Total		100		

☑ I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.

Themes

Theme (Maximum 5 and total % must equal 100)

Major theme	Theme	%
Environment and natural resources management	Other environment and natural resources management	100
Total		100

Proposed Global Environmental Objective(s)

The objective of the Project is to improve mechanisms and capacity of the three counties to plan and manage the transboundary Drina river basin, incorporating climate change adaptation.

Components

Component Name	**Cost (USD Millions)**
Component 1: Multi-State Cooperation in Transboundary DRB Management	2.95
Component 2: Pilot Investments for Integrated DRB Management Including Flood and Drought Management and Climate Change Resilience	5.29

Component 3: Project Management and Monitoring & Evaluation	0.50

Systematic Operations Risk- Rating Tool (SORT)	
Risk Category	**Rating**
1. Political and Governance	Moderate
2. Macroeconomic	Low
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Low
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Moderate
7. Environment and Social	Low
8. Stakeholders	Moderate
9. Other	
OVERALL	Moderate

Compliance	
Policy	
Does the project depart from the CAS in content or in other significant respects?	Yes [ ] No [X]
Does the project require any waivers of Bank policies?	Yes [ ] No [X]
Have these been approved by Bank management?	Yes [ ] No [ ]

Is approval for any policy waiver sought from the Board?	Yes [ ] No [X]
Does the project meet the Regional criteria for readiness for implementation?	Yes [ ] No [ ]

Safeguard Policies Triggered by the Project	**Yes**	**No**
Environmental Assessment OP/BP 4.01	**X**	
Natural Habitats OP/BP 4.04	**X**	
Forests OP/BP 4.36	**X**	
Pest Management OP 4.09		**X**
Physical Cultural Resources OP/BP 4.11	**X**	
Indigenous Peoples OP/BP 4.10		**X**
Involuntary Resettlement OP/BP 4.12	**X**	
Safety of Dams OP/BP 4.37		**X**
Projects on International Waterways OP/BP 7.50	**X**	
Projects in Disputed Areas OP/BP 7.60		**X**

Legal Covenants

Name	**Recurrent**	**Due Date**	**Frequency**

Description of Covenant

Conditions

Source Of Fund	Name	Type

Description of Condition

Team Composition

Bank Staff

Name	Role	Title	Specialization	Unit
Anna Cestari	Team Leader (ADM Responsible)	Sr Water Resources Spec.		GWA03
Karina Mostipan	Procurement Specialist (ADM Responsible)	Senior Procurement Specialist		GGO03
Lamija Marijanovic	Financial Management Specialist	Financial Management Specialist		GGO21
IGOR PALANDZIC	Team Member	Operations Officer		GWA09
Jelena Lukic	Safeguards Specialist	Social Development Specialist		GSUGL
Mirjana Karahasanovic	Team Member	Senior Operations Officer		GEN03
Nikola Ille	Safeguards Specialist	Senior Environmental Specialist		GEN03

Extended Team

Name	Title	Office Phone	Location

Walter Klemm	Hydraulic Structures Expert (FAO)	3905646294	Manciano

Locations

Country	First Administrative Division	Location	Planned	Actual	Comments

Consultants (Will be disclosed in the Monthly Operational Summary)

Consultants Required ? Consulting services to be determined

I. STRATEGIC CONTEXT

A. Country Context

1. **The Drina River Basin (DRB) is central to economic, environmental and social development of the Balkan Peninsula.** The Drina River is 346 km long and forms a transboundary Basin of around 20,000 km^{2,} about equally divided[1] among Bosnia and Herzegovina (BH), Montenegro (MNE) and Serbia (SRB). The DRB is home to almost one million people, living mainly along the Drina River but also along its major tributaries Piva, Lim, Cehotina and Tara. The DRB is rich in natural resources, water, biodiversity and stunning scenery. Eight medium to large hydropower generation plants are located in the DRB, providing power to more than one million people. One of the last "untouched" river basins in Europe, DRB's pristine landscape has considerable scenic value and tourism is growing with local communities actively involved. Both scarce and endemic species are present, and the forests in the upper DRB are home to animals that are endangered in other parts of Europe. The river water, of generally good quality due to its high flow rate and low pollution, is still rich in fish—both farm-raised and wild. Fishing and hunting for sport have also become important commercial activities. A number of natural parks and protected areas are located throughout the DRB and the landscape is dotted with unique glacial lakes and canyons, including the Tara Canyon, a UNESCO World Heritage site located in MNE.

2. The Drina River and its tributaries are known for floods and droughts with significant impacts on the local economies. Originating in the Dinaric Alps in MNE, the Drina River drains a vast karst plateau which receives the highest annual rainfall (up to 3,000 mm) and the highest specific runoff in Europe (up to 50 l/s/ km^2). Drina is notorious for its extreme high and low flow fluctuation. In recent years (2010, 2013 and again 2014) flooding has caused devastation along the Drina River and its tributaries. These recent floods were caused by large cloud-bursts with high rainfall intensities causing a flood volume of several billion m^3 in a few days. In between, localized droughts (particularly significant in karstic conditions) have affected crops and the environment. These events have a significant impact on the DRB countries. BH, MNE and SRB are upper middle-income countries which all have seen a slow recovery since the dramatic period in the 1990s. The floods of 2014 were a serious blow to SRB and BH. Poor weather also affected the harvest in MNE. The cumulative impact of the 2014 floods is estimated at around 15 percent of GDP (9.3 percent damages and 5.6 percent lost output) in BH, around 4.7 percent of GDP in SRB (2.7 percent in damages and 2 percent in economic losses). BH agricultural exports suffered from significant crop destruction. The hardest hit economic sectors were energy, mining, and agriculture but significant damages were also inflicted on transport infrastructure (roads, bridges and railways).

3. Recent studies indicate that Balkan countries are particularly sensitive to future climate and precipitation change in Europe[2] with weather related events to become more frequent and

1 The total DRB area is 19,680 km^2 and the share of each riparian country in the basin is as follows: 37% lies in BH (of which 87.5% in the Republika Srbska (RS) and 11.5% in the Federation of Bosnia & Herzegovina (FBH); 32% lies in MNE; 31% in SRB; and 0.8% in Albania.

2 Climate Change 2013: The Physical Science Basis. Contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change [Stocker, T.F., D. Qin, G.-K. Plattner, M. Tignor, S.K. Allen, J. Boschung, A. Nauels, Y. Xia, V. Bex and P.M. Midgley (eds.)]. Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA..

intense. The DRB has been assessed as that part of the Danube River Basin which is most sensitive to climate variability. Modelling done with support from the World Bank suggests that a once in a 100-year flood could cause severe economic and environmental impacts. The resulting public damage and losses could amount to 4 percent and 5 percent of each country's GDP, respectively. Large shares of the population would also be exposed to a once in a hundred year flood. The cumulative impact of less frequent events could be even more significant.

B. Sectoral and Institutional Context

4. Complex transboundary water management issues have meant that the DRB potential for economic and environmental development remains largely unexploited. Although many development opportunities are attractive to national interests and authorities, such as hydropower, the externalities and trade-offs at local and regional scales have not yet been quantified. The lack of confidence, and limited availability of data and analytical tools have kept individual countries from taking initiatives to address key questions about prioritization of investments, and transboundary sharing of benefits and risks. Similarly, the three countries struggle with the operationalization of an Integrated Water Resources Management (IWRM) approach in an environment of severe financial constraints.

5. **Hydropower generation is dominating DRB management.** Currently, eight hydropower plants are operated in the DRB, with a medium-sized ninth plant (Buk Bijela) and several mini- to medium-sized hydropower plants in preparation. Almost all existing plants are operated by the Electric Power Enterprise of SRB, as owner of six plants and two under concession (the Matinje one only up to 2016). The hydropower facilities, including reservoir operation, were primarily designed to optimize hydropower production and not for concurrent flood mitigation which would require much larger reservoirs.

6. The DRB is a good example of a basin where the stakes and risks are high and where its sustainable development is fully dependent on regional cooperation. The cooperation on water resources management is improving, albeit slowly. The national and local institutions, including the ministries responsible for water resources, their water directorates, the water agencies and the hydro-meteorological institutes collaborate at the local level and are active participants in the International Commission for the Protection of the Danube River (ICPDR), and the International Sava River Basin Commission (ISRBC)[3]. Both commissions have prepared the EU-compliant "roof" River Basin Management Plan (RBMP) for the Danube River and the Sava River. In close partnership with the three countries and the ISRBC, the WB supported a regional policy dialogue as well as strategic and sector analyses in 2011-2013[4]. The studies identified short- to medium-term (4-5 years) actions to improve Water Resources Management (WRM) in the DRB: a Strategic Action Plan (SAP) including measures to achieve a "good ecological status" of the river basin; improved data collection and analysis to forecast and prepare for floods and droughts; and, improved stakeholders dialogue and institutional cooperation. This Project will support the beneficiary countries with these activties and it will complement already ongoing activities, which

[3] Montenegro is not yet a member of ISRBC; the activities under the project will facilitate MNE participation in ISRBC activities and possibly facilitate progress towards its membership.

[4] The West Balkan Regional Flood and Drought Initiative in the DRB carried out studies and regional consultations resulting in the main report *Drina Rapid Transboundary Diagnostic Scan and Analysis* (June 2012), and five Issue Reports: *Regional Memoranda and Agreements, Data and Information Management, Hydropower and Environmental Management, Floods and Hydropower Management, and Sediment Management*.

include the development of River Basin Management Plans, Risk Management Plans, improved flood forecasting and warning and improved flood defences in the Sava and Drina Basin.

C. Higher Level Objectives to Which the Project Contributes

7. The Project will contribute to the Bank's twin goals of poverty reduction and shared prosperity in a sustainable manner in several ways The Project aims to ensure a rational and equitable management of the DRB supporting the significant socio-economic development opportunities offered by its abundant natural resources, while at the same time protecting the environment. The Project will strengthen the mechanisms for cooperation across boundaries ensuring that potential infrastructure development has no detrimental effects on the shared river basin. The Project will also help deal with climate change-related disasters, notably floods and droughts, and thus meet the short- and long-term objectives of the Global Environment Facility (GEF) Strategy on Adaptation to Climate Change. The Project will draw upon the international experience under GEF International Waters (IW): Learn, and on the lessons acquired in the Balkans from the recently completed GEF Neretva and Trebisnjica Management (NTMP) Project in BH and Croatia (2009-2015). The Project is consistent with the strategic goal of GEF 5 - International Waters Focal Area, namely the promotion of collective management of transboundary water systems and subsequent implementation of a range of policy, legal and institutional reforms and investments contributing to sustainable use and maintenance of eco-system services (GEF International Waters Strategic Objective 3). Finally, the team will ensure coordination with related GEF and SCCF funded activities in the region, as to maximize positive impacts where possible.

8. The Project is in line with SRB CPF 2016-2020 which seeks to assist the country with meeting its obligations as an EU candidate country. While not a pillar of the CPF, the framework emphasizes "Responding to climate change and disaster risks will be a cross-cutting theme across the two focus areas, given the high risks that natural disasters pose to economic development and the impact of climate change on the poor" which is in line with Project objectives.8. Specifically, in BH, the Project fits the priorities identified in the Country Partnership Strategy (CPF) 2016-2020, directly responding to Focus Area 3: Building Resilience to Natural Shocks and to its objectives to prevent the degradation of natural resources and build resilience to floods. The Project is directly linked with expected CPF outcomes: People in flood affected/prone areas benefiting from goods received and infrastructure rehabilitated with projects' support and strengthened capacity in water resources management, including flood management, forecasting and warning, in Drina and Sava River basins. 9. In MNE, the CPS 2011-2015 calls for "Improving Environmental Management and Reducing the Cost of Environmental Problems". It specifically identifies the occurrence of floods as a significant natural disaster in the country and underscores the need for flood management and protection, especially with more frequent and widespread floods expected under conditions of predicted climatic shifts.

II. PROJECT DEVELOPMENT OBJECTIVES (PDO)

A. Proposed Development Objective(s)

9. The objective of the Project is to improve mechanisms and capacity of the three countries to plan and manage the transboundary Drina River Basin, (DRB) incorporating climate change adaptation.

B. Project Beneficiaries

10. The Project will have a large number of direct and indirect beneficiaries. The activities will directly target five national/entity ministries, four water directorates, and water agencies from riparian countries, including:

- the Drina Task Force (DTF) which will be established with support of the Project to foster cross-border coordination.
- four hydro-meteorological institutions whose capacities will be strengthened, and whose staff will participate in hydrometeorological data collection, analysis and dissemination;
- vulnerable communities affected by floods and droughts;
- citizens, environmental NGOs, communities and other associations of the DRB targeted through Public Awareness Campaigns;
- beneficiaries from at least 20 grantees that will implement sub-projects through the Small Grant Scheme; and
- four regional and 25 municipal authorities (five in RS, two in FBH, 10 in MNE, and eight in SRB) through preparation of several studies related to flood prevention, water quality improvement, and climate change mitigation.

11. The indirect benefits will be experienced by the entire DRB eco-system, all DRB water users including one million inhabitants living in 57 municipalities. Other indirect beneficiaries include:

- climate-sensitive economic sectors within the DRB, such as energy, agriculture, transport, and construction, benefitting from improved hydrometeorological data analysis; and
- consumers who will benefit from improved agricultural production as a result of improved hydro-meteorological information services.

C. PDO Level Results Indicators

12. Progress towards achieving the PDO will be measured through the following key performance indicators:

- Improved Mechanisms: (i) hydrological model (including climate change impacts) and hydraulic model jointly endorsed and operational; (ii) SAP jointly prepared and endorsed at ministerial level in all three countries.
- Improved Capacity: (i) Drina River Basin Task Force operational; (ii) hydro-meteorological data collected and shared for modelling and forecasting.
- Climate Change Adaptation: 30 percent of SAP activities address climate change issues related to droughts and floods. And
- Direct Project Beneficiaries (number), of which female (percent).

III. PROJECT DESCRIPTION

A. Project Components (see Annex 2 for details)

13. The proposed GEF/SCCF funded Project is the results of several years of WRM engagement and dialogue in the Balkans. The Project will complement ongoing activities financed by the Bank, the EU and other international institutions which aim at improving integrated

planning and cooperation for water in the region. The resources being requested from the GEF and the SCCF will therefore be complementary to the existing activities being undertaken at a country and transboundary level. They will support preparation of a strategic action plan (SAP), transboundary institutional strengthening, basin management and monitoring, and build capacity and knowledge to respond to climate change. These funds are critical to support the three countries in these efforts. The Project will therefore directly respond to the International Waters agenda of the GEF and the climate change agenda of the SCCF by strengthening resilience to climate change. While other ongoing activities are supporting the development of River Basin Management Plans, Risk Management Plans, improved flood forecasting and warning and improved flood defences in the Sava and Drina Basin, this Project will complement them by focusing on the key priorities identified in in the Investment Scan Study [5]: i) institutional strengthening of the key agencies/entities to ensure improved transboundary cooperation and planning, including modelling at DRB level; ii) modernization of the hydro-meteorological stations network so as to improve data quality availability; among other uses, improved HM data will be also used for the WBIF financed/WB supported Sava flood forecasting and warning system; and iii) small grants and pilot investments at community level to improve local understanding and engagement in WRM issues. For the detailed project components and their sub-components description including rationale for site selection, financing plans and technical details of investments and cost estimates, see Annexes 2.

Component 1: Multi-state Cooperation in Transboundary DRB Management (Total: US$ 2.946million; SCCF: US$ 0.446 million; GEF IW: US$ 2.50 million)

Sub-component 1A: Development of an agreed SAP mainstreaming transboundary IWRM and climate change adaptation in national planning. This sub-component will contribute to improved planning by supporting the following activities:

(i) preparation of a DRB SAP including in-depth Transboundary Diagnostic and Analysis (TDA);
(ii) preparation of hydraulic and hydrological models for the DRB with multi-purpose reservoir operation optimization;
(iii) preparation of a DRB water resources study; and
(iv) preparation of a study for pollution analyses in the DRB

Sub-component 1B: Institutional development and capacity building. This sub- component will support cooperative transboundary management of DRB through the following activities:

(i) support DTF and stakeholders to coordinate DRB activities;
(ii) support to the preparation of national and local policy and regulatory reforms to facilitate international DRB management; and
(iii) participation in GEF IW:LEARN activities.

Component 2: Pilot investments for Integrated DRB Management including Flood and Drought Management and Climate Change Resilience (Total: US$ 5.286million, SCCF: US$ 3.670 million; GEF IW: US$ 1.616 million)

Sub-component 2A: Strengthening capacity for climate change resilience. This component will support better preparedness for threats resulting from floods and droughts while making optimal

[5] **RAPID REGIONAL DIAGNOSTIC AND INVESTMENT SCAN STUDY, WB, 2012.**

use of the environmental DRB assets and engaging local communities. The Project will support the following activities:

(i) strengthening of four national/entity Hydro-Meteorological Services (HMSs) through equipment modernization including hydro-meteorological observing system;
(ii) development of protocols to improve hydro-meteorological data exchange among the DRB countries including, identifying and resolving issues on data harmonization during Project implementation development of protocols for data exchange;
(iii) Public Awareness campaigns;
(iv) Small Grants program; and
(v) support to flood and drought preparedness measures and enhanced early warning system.

Sub-component 2B: Pilot investments for climate change resilience. This sub-component will support pilot project investments that reduce negative climate change impacts in all three riparian countries. These pilot projects include improved flood protection measures along the Drina River and its tributaries, improved ground water resources monitoring, improved hydro-meteorological forecasting, soil condition monitoring, establishment of reliable discharge rating curves and improved water quality.

Component 3: Project Management, Monitoring & Evaluation and Auditing (Total: US$ 0.50 million; SCCF: US$ 0.25 million; GEF IW: US$ 0.25 million). This component supports overall project management, monitoring and evaluation (M&E) and auditing. Activities will include: financing of expenditures associated with overall project implementation costs including incremental costs associated with the Project Management Team (PMT) and the Project Implementation Teams (PITs); project supervision and implementation assistance consultants including an Environmental Management Plan, a Social Management Plan, GEF/SCCF tools, and regular auditing. It will especially support the regional Project Management Team (PMT) which will be responsible for overall project coordination at regional (transboundary) level, and the PITs in each of the riparian countries, the latter being responsible for the day-to-day implementation of project activities at national level.

B. Project Financing

14. The Project is financed by two grants with a total amount of US$ 8.732 million provided equally by GEF and SCCF. These grants will finance the three main project components as follows: (1) multi-state cooperation in transboundary DRB management totalling US$ 2.946 million (34 percent of total grant); (2) pilot investments for integrated DRB management including flood and drought management and climate change resilience totalling US$ 5.286 million (60 percent of total grant), and (3) project management, M&E and audit, totalling US$ 500.000 (6 percent of total amount). About 1% of the IW project grant, i.e. US$ 50,000 will be allocated for IW: Learn activities.

15. In accordance with the criteria mutually agreed among the DRB riparian countries, US$ 3.155 million of the Grant will be allocated to BH, US$ 2.721 million to MNE, and US$ 2.635 million to SRB. All countries will contribute their share for the Regional activities from their national allocations. The Project is implemented in parallel with a number of investments in WRM which amount to about US$ 100 million. All three countries have guaranteed a direct contribution to the Project in kind.

C. Lessons Learned and Reflected in the Project Design

16. A number of lessons were considered from the implementation of other projects in the West Balkans as well as, more generally, from experience around the World.

17. The GEF Neretva and Trebisnjica Management Project (NTMP) served as an example for project design. The recently closed NTMP has demonstrated that good results could be achieved within one river basin despite all the complexities of transboundary water management issues as well as the recent history in the Balkans. Cooperation and coordination were built throughout the project's life among the two riparian countries and complex policies decisions were achieved. The successful small grants and public awareness components of NTMP will be replicated in this Project, as to foster local ownership and people engagement. This Project will further take into consideration the experience gained from the ongoing Technical Assistance Project funded by WBIF on the Drina and Sava river basin management and flood and drought forecasting. The Project would also seek linkages with similar work on the Sava River undertaken under the umbrella of the UN Economic Commission for Europe (UNECE) that aims to address primarily the institutional transboundary management of floods under different scenarios.

18. The Project also takes into account the global lesson that sound hydro-meteorological data collection and management, including the installation of key observation stations, is key for sustainable river basin development and planning. Relevant lessons can be drawn from South Asia, East Asia and MENA, and will be taken into account during project implementation. As importantly, institutions which are often ill equipped to handle complex data sets involving many disparate uses for water, weather and climate services, need strengthening focused on these areas. Efforts will be made to clarify roles and strengthen cooperation and coordination among agencies. Memoranda of Understanding regarding multi-lateral data sharing, i.e. agreements between participating agencies, will specify types, amounts and formats of data and information products.

19. On the implementation side, the Project takes note of some practical lessons, including, procurement of sophisticated equipment should be carried out as early as possible to avoid delays in implementation, and in packages to ensure overall operation responsibility by one contractor. Implementation capacity should be improved through training on-the-job guided by specialized consultants.

20. Sustainability has also been taken into account. Hydro-meteorological modernization projects have a fairly poor sustainability record, especially pertaining to Operation and Maintenance (O&M). For this reason, the Project will support the participating institutions develop adequate O&M plans, inclusive of budget plans, to ensure continued operation of the systems improved by the Project.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

21. The Project will be implemented by the ministries and/or government/entities agencies responsible for water management in the three participating countries. For Bosnia Herzegovina (BH), the Ministry of Foreign Trade and Economic Relations (MOFTER) Project Management Team (PMT) will be responsible for the implementation, including fiduciary (Financial Management and Procurement) of all joint activities among riparian countries, as well as for the Federation BH's activities. The Ministry of Agriculture, Forestry and Water Management (MAFWM) Agriculture Project Coordination Unit (APCU) will be responsible for implementation

of the activities located in the Republika Srpska (RS). The Federal Ministry for Agriculture, Water Management and Forestry (FMAWMF), Agency for Sava River Basin and Federal Hydro-meteorological Service (FHMS) will provide technical support for project implementation in the Federation of BH. The Public Enterprise "Vode Srpske" (PE "Vode Srpske") and the Hydro-meteorological Service of Republika Srpska (RSHMS) will provide technical support for implementation in RS respectively. In Serbia, the main responsibility for the implementation will be with the Ministry of Agriculture and Environmental Protection (MAEP) and its Directorate for Water (DW) Project Implementation Team (PIT) technical support will be provided by the Republic Hydro-meteorological Service (RHMS) and the Public Water Resources Management Company (PWMC) "Srbijavode". In Montenegro, a PIT in the Directorate of Water Management (DWM) of the Ministry of Agriculture and Rural Development (MARD) will be responsible for overall project implementation, while fiduciary responsibilities will be performed by the Ministry of Finance's Technical Service Unit (TSU). Technical support will be with MNE's HMS and MARD's DW. Technical supervision for projects will be carried out by the ministries of the three riparian countries according to the individual roles and regulations.

22. For activities under Component 1 and Sub-component 2A, the PMT in MOFTER will take over the coordinating and implementing role among the riparian countries and will serve as a liaison office to the WB. Depending on the nature of activities, designated representatives will be involved in the coordination to enable participation of all riparian countries and entities. These activities will be carried out in close coordination and under the overall guidance of the Drina Task Force (DTF). The DTF will have 7 members in total: two from SRB, two from MNE and three from BH.

23. The DRB riparian countries are experienced in implementing WB-financed projects, a necessity for efficient, effective, accountable and transparent project implementation. The PIT in Serbia will be strengthened with external experts for implementation of the Project (FM, procurement, M&E, audit, and safeguard capacities). In Montenegro, the PIT will seek support from external experts as needed (M&E, audit and safeguard capacities). FM and procurement will be carried out by the TSU. If any other expertise is required from the implementing agencies, it will be mobilized as needed upon agreement with the WB team. Moreover, the joint partnership between BH, MNE and SRB was strengthened during the project preparation phase when holding regular joint coordination meetings of the technical working groups.

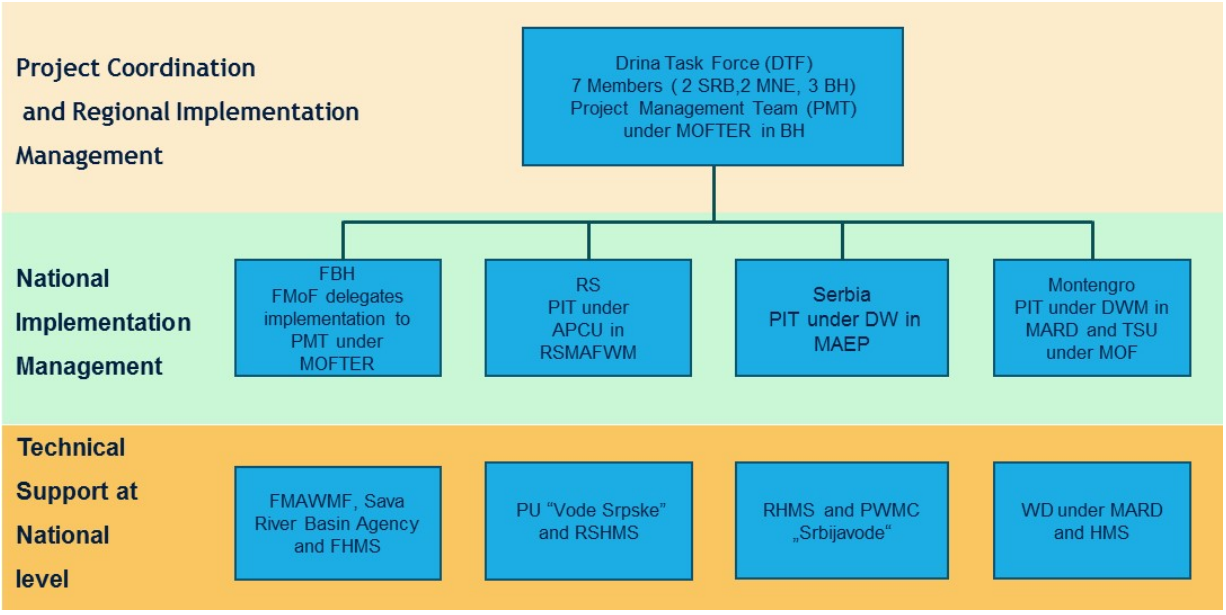

Figure 1: Implementation Arrangements

B. Results Monitoring and Evaluation

24. The monitoring and evaluation of outcomes and results during project implementation will follow standard WB practises and GEF tracking tools. It will be based on existing data sources, supplemented by data collection within the Project and special surveys and assessment updates. PMT in MOFTER will be responsible for overall M&E implementation and coordination between the riparian countries and will serve as a liaison with the WB at the regional level and PITs in each of the riparian countries/entities. PMT and PITs will monitor activities and report project progress, measuring economic, social and environmental benefits of the project by reporting on pre-selected project indicators, as presented in the Results Framework in Annex 1. The M&E reports will be presented as part of the regular progress reports. The PMT and PITs will collect and present data and reports for semi-annual reviews by the DTF and country institutions responsible for water management, in conjunction with supervisory missions.

25. The PMT and PITs will be responsible for monitoring project performance and achievement of project outcomes and results. These agencies are already implementing the ongoing projects in riparian countries respectively, and have adequate capacity to carry out the monitoring and evaluation tasks under the Project.

26. For all project indicators presented in Annex 1, semi-annual reports will be submitted to the WB in order to monitor project progress and identify and take action in a timely manner to address any problem that may emerge. GEF and SCCF Tracking tools will be completed and submitted at inception, mid-term and project closure.

C. Sustainability

27. The project complements a number of other activities and investments currently ongoing in the West Balkans, which aim at improving the region's water resources management while supporting convergence towards EU requirements. The GEF/SCCF Project is designed to build on existing institutional structures and initiatives for national and regional transboundary water resources management. The capacity of the institutions will be strengthened to support cooperative

and integrated management of the DRB. Particular attention will be given to improving the data network, including its operation and maintenance. Sound data combined with good analytical tools, including the new stations, the hydrological and hydraulic models and the SAP which will be supported under this project, are necessary to strengthen the planning capacity and improve the long term ability of the countries to deal with climate change and water related disasters to the largest possible extent, the Project will use the existing institutions and agencies which manage transboundary water resources issues, and would only establish a Drina Task Force closely linked to the ISRBC to ensure – among others - compliance with international standards and coherent strategies and policies among the three riparian countries including the two entities of BH.

28. As a higher objective the Project is expected to contribute to better living standards for the population of the DRB, to be achieved through sustainable solutions in IWRM carried out by effective and efficient institutions. The investments implemented with the participation of the hydro-meteorological institutes, water agencies, municipalities and communities through the small grants and pilot projects programs would be assessed for financing by the Project taking into account their socio-economic and environmental sustainability. Social assessments carried out in the past identified the perception in the Public that it should be better consulted and included in the decision making process. Weaknesses in social inclusion and accountability are key factors for unsustainable water use. The Project would therefore create opportunities for larger public involvement in the preparation of the SAP, and provide incentives through the small grants program to develop sustainable water resource management activities.

29. The Project will also coordinate with and build upon other GEF and SCCF funded activities in the Region to maximize impact and foster long term sustainability. In particular, The Project will seek to address applicable lessons learned from the Southeast Europe and Caucasus Catastrophe Risk Insurance Facility (World Bank, GEF ID: 4515) which closed on December 31, 2015, during the implementation. It will also build upon complementarity with the ongoing Technology Transfer for Climate Resilient Flood Management in Vrbas River Basin (UNDP, GEF ID: 5604). The activities will be coordinated on the ground, by the beneficiaries and with the support of the IAs (WB and UNDP); the teams will work closely on the hydrological modelling aspects and on the pilot projects addressing flood preparedness.

V. KEY RISKS AND MITIGATION MEASURES

A. Risk Ratings

30. While the overall process may be complex, the risk of project failure is moderate as, at national level, each country (and the entities of BH) is increasingly cognizant of the interde-pendence and of the urgent need to develop collaborative, integrated approaches/solutions to the management of shared waters to reduce threats of floods and droughts that have recently had devastating impacts in all three countries. In order to mitigate the only substantial risk "institutional capacity for implementation and sustainability", particular attention would be given to Project Component 1 where most activities address capacity improvement and sustainability issues.

31. The following risks are rated Substantial or Moderate before implementation of applicable mitigating measures:

a. **Political and Governance: Moderate.** There is a risk that conflicting and competing demands among the different countries, entities and sectors, and vested interests, may delay decision-making and undermine the collaborative process essential for the

achievement of the PDO. Mitigation: in all three participating countries stable political conditions have prevailed in recent years, and the three key principles of good governance (transparency, accountability and participation) have been adopted and implemented. During preparation, the implementation arrangements, including clear roles and responsibilities of the institutions involved have been defined.

b. **Sector strategies and policies: Moderate.** There is a risk that changing political priorities may alter the set strategies and policies in the water sector. This risk is considered only moderate because transboundary water management has gained prominence in light of the recent severe flood events which have severely affected the Sava basin. The riparian countries are strengthening their cooperation on water issues.

c. **Institutional capacity for implementation and sustainability: Substantial.** The achievement of the PDO may be jeopardized by the complexities of having three national governments, two entity governments and several institutions representing different sectors involved in the implementation of the components. To mitigate this risk, the scope of the components and the investments have been defined in detail during project preparation..

d. **Fiduciary: Moderate.** Adequate implementation arrangements as well as internal and independent controls will mitigate risks associated with procurement and financial management compliance.

e. **Stakeholders: Moderate.** Local stakeholders may object to certain investments. To mitigate this risk, investments have been chosen carefully and are not considered controversial. At the same time, extensive consultations are taking place and will continue as necessary during project implementation.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

32. Significant environmental and economic benefits are expected to result from the Project's investments in multi-state DRB cooperation and climate change resilience. These benefits will be experienced regionally and locally. Furthermore, this regional project will be implemented in synergy among the three countries, benefitting from economies of scale and optimization of project financing across the basin. In brief, in keeping GEF 6 strategy, the DRB project will foster Cooperation for Sustainable Use of Transboundary Water Systems and Economic Growth.

33. The most important benefits that the entire DRB region will experience from this Project are those that will occur once the multi-state cooperation in DRB management has been established and is functional. It is expected that Project Component 1 will enhance dialogue and understanding among and within riparian countries, contribute to a shared vision of DRB development, promote transparent and accountable decision-making, increase the DRB riparian countries' capacities to jointly plan and select investments more efficiently and in accordance with IWRM principles, and facilitate open discussions about options and trade-offs with respect to water resources development. Expected benefits can be summarized as follows: ***benefits to the river*** (regional ecosystem improvement and protection), ***benefits from the river*** (improved regional cooperation and coordination in hydropower generation and agricultural production, nature-based (eco)tourism and recreation, fishery, and sediment exploitation), and ***benefits beyond the river*** (easing regional tensions over conflicting interests and competing priorities for water resources management, with

opportunities for construction of shared infrastructure). The benefits associated with this Component, however, are extremely difficult to quantify. Efforts will be made to ensure that all studies and consultancies procured are competitively procured, that synergies are exploited among the countries and the participating agencies, including the water agencies, the hydro-meteorological institutes and the ministerial level departments.

34. One of the major economic and financial benefit that can be derived from the expected project outcomes is the reduction of damages caused by future flood hazards as all riparian countries will become better prepared to mitigate flood effects especially under the current climate change scenarios. Flood events can inflict damage and losses amounting to about 5 percent of the countries' GDP. Large shares of the population near the rivers are severely exposed to flooding. Important benefits are expected from the development of the DRB hydraulic and hydrological model, because it will introduce a framework of harmonization and synchronization of the existing hydropower plants which is particularly important in extreme hydrological situations such as during floods. The water agencies of the riparian countries will directly benefit from this Project considering that their capacities will be strengthened in terms of equipment and training.

35. Important benefits at regional level are expected to result from the strengthening of the national Hydro-meteorological Services (HMSs). These services are used for public safety and, in the region are financed by the governments. In the short- and medium-run, these benefits will materialize in optimization of operational costs (optimization of travel costs, station distribution and data management), while in the long-run they will materialize in reduction of damage and losses related to hydro-meteorological hazards, and increase of benefits in productive sectors. The key weather-dependent economic sectors in the DRB that can benefit from better HMS in terms of improving productivity and efficiency are: energy production, agriculture, road traffic and construction. The applied conservative estimates indicate that in the long-run a relatively high benefit-cost ratio of this investment, in terms of reduced economic losses, is likely to be expected in all riparian countries. The ***fiscal impact*** of HMS strengthening will be relatively low considering that the annual budgets of national HMSs will be able to provide sufficient funds to cover annual maintenance costs that will result from this investment.

36. Key benefits that will be enjoyed locally are related to improved water quality and supply reliability, and to better informed local planning and decision making related to flood protection and reduction in anticipated negative climate change impacts. For the planned pilot projects, economic analysis is not applicable (preparation of studies, technical documentation, and exploratory works) or is not feasible at this stage of project preparation. In this regard, the World Bank has been a strong partner in the region, and it has worked with governments as well as with other donors to support IWRM, climate change preparedness as well as response to floods and droughts.

B. Technical

37. IWRM is applied in the Project. It is an acknowledged systematic approach to proper and efficient water resource and environmental management. IWRM can be improved through unification of instruments, such as water resources and land-use planning, efficient eco-system management, biodiversity conservation, and community-based resources conservation. The EU Water Framework Directive incorporating IWRM was used to guide project design. The Project supports the IWRM in the DRB by harmonizing the management approach and legal frameworks across the three countries, and by ensuring stakeholder participation at all levels. To support transboundary IWRM, the Project aims at the development of a Strategic Action Plan (SAP) for

the DRB as part and complement to the Drina River Basin Management Plan (DRBMP). The SAP would specify the measures aimed at the achievement of a "good ecological status" of the river basin. For this reason, the Project is technically justified on the basis of adequate environmental management. Improvement of protected areas management, conservation of eco-systems, raising public awareness and education, which are all included in the Project, will also serve as mechanisms to develop IWRM. The SAP will be compatible with the Sava and Danube RBMPs. The links made with the ISRBC in project activities, including hydraulic and hydrologic modelling and data protocols, and close cooperation of the DTF and ISRBC ensure adherence to international standards.

38. In recent years, the riparian countries have been hit by severe floods and droughts. An unfavourable climate towards both the existing and planned HPPs is thus evident. To address the nexus between hydropower generation and environmental protection, floods, and droughts, the Project will include the establishment and operation of a suitable, jointly endorsed hydrological real-time and hydraulic simulation model combined with a climate change impact model. The Project will make explicit use of the "Guiding Principles on Sustainable Hydropower" adopted by the ICPDR in 2013[6]. It will also serve as a support to a coherent approach for enhancement of flood forecasting and an early warning system in the DRB. The model will be compatible with similar models applied in the region, particularly by the ISRBC. It will use the WBIF project results as well as findings from the water resources and basin study that is going to be developed within this Project. The study will define the basin and water resources parameters to inform regional strategies for water resources management, water resources development, energy and hydropower development and rationalization. The real-time data for the model will be provided through a strengthened and completed hydro-meteorological observing system. The HMSs of the riparian countries will receive facilities for this purpose. As the conditions of the existing hydro-meteorological monitoring network in the riparian countries are inadequate, the modernization of the HMSs would answer to data needs for the joint model and provide long-term data series for future climate change studies,

39. To support the countries' pilot project investments that affect the reduction of negative climate impact, those activities perceived to be adequate by stakeholders will be supported. The activities include protection of communal infrastructure, groundwater investigation works and modelling for irrigation purpose, creation of better conditions for (eco)tourism development in rural communities, river training works and protection of settlements and arable land from floods. Throughout the DRB, selected pilot projects will also address completion of technical documentations at different levels necessary for further investments, small scale construction works, and investigation works.

C. Financial Management

40. An assessment of the financial management (FM) capacity of project-related institutions was carried out by the World Bank during the preparation mission in October 2015, and thereafter updated in February 2016. The assessment concluded that i) the financial management arrangements in the PMT established under MOFTER (who would also act as the FBH PIT), the PITs in the APCU established by RS MAFWM, in the DWM under the MAEP in SRB, and in the TSU under the MOF in Montenegro, respectively, are all acceptable to the Bank, and that ii) the overall financial management risk is moderate when applying the proposed mitigation measures.

[6] http://icpdr.org/main/activities-projects/hydropower

41. PMT and PITs will maintain a financial management system acceptable to the Bank. The project's financial statements including Statement of Expenditures (SOE) and DA Statements will be audited by independent auditors on Terms of Reference (TOR) acceptable to the Bank. The annually audited financial statements and the audit reports will be provided to the Bank within six months of the end of each fiscal year. The PIT shall also prepare and furnish to the Bank not later than forty five (45) days after the end of each calendar semester, interim unaudited financial reports for the project covering the semester, in form and substance satisfactory to the Bank. However in order to improve the existing financial management arrangement, an action plan had been agreed with the PMT and PITs as follows:

Action	Deadline	Responsibility
Prepare FM section for the Project Operations Manual, which also include Small Grants chapter	Effectiveness condition	All four implementing teams in the three countries
Obtain FM software for proper project accounting	After Effectiveness	PIT of DW Serbia

D. Procurement

42. Procurement will be carried out in accordance with the Bank's Procurement and Consultant Guidelines and the provisions stipulated in the Financial Agreement (FA). There are two levels of procurement risks: (a) at country level and (b) at project level. Procurement at country level is based on country-specific public procurement legislation and on overall procurement environment. Procurement at project level is based on current risks in the country portfolio. The PMT and the PITs involved in project implementation have carried out procurement in several similar Bank-funded projects and are familiar with Bank procurement procedures. The country procurement risk for BH is "Substantial", for MNE and SRB it is "Moderate". Overall fiduciary risk on procurement aspects for this project is "Moderate". Detailed procurement arrangements and prior review thresholds for goods, works and consultants' services are presented in Annex 3. In addition, contracts not subject to Bank's prior review will be post reviewed by the Bank's implementation support missions, and/or during regular post-reviews on sampling basis with a post review ratio of 20 percent.

E. Social (including Safeguards)

43. ***Social impacts.*** The Project's social impact is expected to be positive as the Project will have an effect on the reduction of climate change-related disasters, notably floods and droughts. Further, both rural and urban populations living along the Drina River and its tributaries will benefit from it. As far as the estimated more than half a million inhabitants in 19 municipalities within the three riparian countries are concerned, significant social benefits from project investment results are expected to mitigate or prevent risks posed by climate change to environment, humans, local economy and property. The project activities will have positive impacts at three levels, namely i) cross-border/regional; ii) national; and iii) local. Project support will include participatory and consultative processes to ensure effective local stakeholder engagement to enhance climate resilience following an IWRM approach.

44. ***Safeguards*.** The Project triggers OP/BP 4.12 on Involuntary Resettlement. Potential land impacts are associated with Component 2B: Pilot Investments. At this stage, the exact locations of pilot investments and potential land impact are not known. As a guiding resettlement instrument, three separate Resettlement Policy Frameworks (RPFs) have been prepared for BH, SRB, and MNE. Once the specific impacts become known, the RPF will guide the preparation of site-specific Resettlement Action Plans (RAPs) where applicable. RAPs will be prepared for all sub-projects that may cause land acquisition and/or resettlement, in order to satisfy the provisions of OP 4.12 and the requirements of local legislation regarding land acquisition in all three countries. The RAPs will include baseline census and socio-economic survey information; specific compensation rates and standards; policy entitlements related to any additional impacts identified through the census or survey; description of resettlement sites and programs for improvement or restoration of livelihoods and standards of living; implementation schedule for resettlement activities; and detailed cost estimates. An Environmental and Social Management Framework (ESMF) was developed to mitigate potential impacts on environment and people. According to the current available data, project activities will be carried out on land owned by municipalities or other public bodies, thus there is at present no evidence that private land would be acquired. Impacts may include temporary restriction of access to piece of property, and potential removal of trees or structures (eg. fences).

45. ***Gender Dimension.*** The Project will generate positive impacts and benefits for both women and men, with their livelihood improved and their incomes increased, without fear of losing their houses and having their land flooded, property ruined and crops destroyed any longer. Gender representation will be ensured during public consultations. The Project, however, for its nature and scope, will not apply specific gender policies. In the Balkans, women are well represented in the work force as well as in the ministries at managerial and decision making level.

46. ***Public Consultations and Disclosure*.** Public consultations were held during project preparation in September and October 2015. The RPFs were disclosed in MNE, SRB and BH as well as in the Bank's Infoshop on December 28, 2015. .Public consultation meetings for the ESMF and RPFs were held in MNE on January 18, 2016 and in BH and SRB on January 19, 2016. The final ESMF and RPFs, in both English and local languages, will be disclosed in accordance with the relevant BH, SRB and MNE laws and the Bank's Operational Policy 4.12 on Involuntary Resettlement.

F. Environment (including Safeguards)

47. The Project is categorized as an environmental category B project in accordance with OP 4.01 Environmental Assessment. To assess the possible environmental impacts of the Project and to set up principles, rules, guidelines and procedures for preparation of site-specific plans to mitigate the possible negative environmental impacts of the proposed investments, an ESMF has been prepared. The document was approved by the Bank on December 21, 2015 and disclosed and publicly discussed in MNE, SRB and BH on December 28, 2015. It was also disclosed in the Bank's Infoshop on December 28, 2015. Public consultations were held in MNE on January 18, 2016 and in BH and SRB on January 19, 2016.

48. No major adverse environmental impacts are anticipated under the Project. For Component 1, a Strategic Environmental and Social Assessment (SESA) will be prepared during project implementation, with the summary ToR disclosed as a part of the ESMF. The SESA would include an initial assessment of a long-list of proposed investments, with the objective of highlighting any negative environmental and/or social impact.

49. The overall WBDRBM Project impacts are expected to be positive as project actions will strengthen at regional, national and local level the preparedness of countries of DRB for potential and possible climate change impacts on DRB water resource use and management as well as mitigate or prevent risks posed by climate change to environment, humans and settlements. Project activities will result in strengthened cooperation and coordination among relevant authorities in DRB, more efficient and integrated water resource management in DRB, improved hydro-meteorological data collection, analysis and dissemination, improved solid waste collection and waste water management, and improved local stakeholder engagement and awareness on climate change.

50. The ESMF identified environmental issues, linked to construction and other civil works, to be managed during implementation. Pollution and/or damage to environment that may occur in the phase of construction, rehabilitation and/or repair are temporary in their nature and of low to medium impact in their scope and can be adequately mitigated through the application of standard safety measures and best practices in engineering design, application of the code of good construction practice, and regular operation and maintenance. These measures can broadly be categorized as belonging to the general health and safety measures for population and construction staff; traffic safety measures; gas and emission control measures; dust and noise control measures; waste management measures; general construction-site control measures; physical protection of natural and culture heritage sites.

51. Based upon the general screening procedures, assessment of environmental impacts related to sub-projects and generic EMP, as elaborated in ESMP, contract-specific EMP(s) will be fully developed for each specific sub-project during the Project implementation. The EMPs will than become an integral part of the bidding documents and resulting contracts, and will be implemented by the respective contractors. The screening process will take into account the environmental requirements of legislation in force at the national level and the World Bank procedures. As such, the activities which would require full EIA (corresponding to World Bank Category A project) will not be eligible for funding under the Project.

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP/GP 4.01)	√	
Natural Habitats (OP/BP 4.04)	√	
Pest Management (OP 4.09)		√
Physical Cultural Resources (OP/BP 4.11)	√	
Involuntary Resettlement (OP/BP 4.12)	√	
Indigenous Peoples (OP/BP 4.10)		√
Forests (OP/BP 4.36)	√	
Safety of Dams (OP/BP 4.37)		√
Projects in Disputed Areas (OP/BP/GP 7.60)[7]		√
Projects on International Waterways (OP/BP 7.50)	√	

52. Natural Habitats. The OB/BP 4.04 is triggered since planned activities will finance studies encompassing research works and analyses at the Drina Basin level, which includes several

[7] By supporting the Project, the Bank does not intend to prejudice the final determination of any party's claims on disputed areas.

national parks, nature reserves and areas under UNESCO protection. The existence of these areas will have to be taken into account in order to avoid, minimize and/or mitigate potentially negative impacts. Triggering of the policy does not envisage preparation of separate safeguard instrument, but incorporation of relevant measures and analyses in the Project-related documents, including ESMF and EMPs.

53. Forest. The OB/BP 4.36 has been triggered since planned activities will finance studies encompassing research works and analyses at the Drina Basin level, where the significant areas under forests exist. The existence of these areas will have to be taken into account in order to avoid, minimize and/or mitigate potentially negative impacts. Triggering of the policy does not envisage preparation of separate safeguard instrument, but incorporation of relevant measures and analyses in the Project-related documents, including ESMF and EMPs.

54. Physical Cultural Resources OB/BP 4.11. Although the identified sub-projects do not directly encroach on any of the existing cultural and historic protected areas, the activities related to work in the river-bed of Drina River and its tributaries, particularly in urban areas, may lead to chance finds. Appropriate provisions for archaeology investigation and/or rescue, as defined in the national legislation, are proposed in ESMF and generic EMP. These provisions will be included in site-specific contracts for civil works during the Project implementation.

55. Project on International Waterways, OP 7.50. The proposed project will provide a number of investments that will target improved water resource management in the Drina River Basin which is part of the Sava Basin, in turn shared among the three participating countries and Slovenia and Croatia. Before appraisal all five Sava countries will be notified of the project through the Sava River Basin Commission, according to the established procedure.

56. Involuntary Resettlement, OP 4.12. The Bank Operational Policy on Involuntary Resettlement (OP 4.12) is triggered. Potential land impacts are associated with Component 2B: Pilot Investments. At this stage, the exact locations of pilot investments and exact potential land impact are not known. As a guiding resettlement instrument, three separate Resettlement Policy Frameworks (RPFs) have been prepared for BH, Serbia and Montenegro. Documents were disclosed in BH, SRB and MNE on (insert date) respectively. RPFs were disclosed on the Bank's Infoshop on (insert date).

G. World Bank Grievance Redress

57. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank. org/GRS. For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

Annex 1: Results Framework and Monitoring

BOSNIA AND HERZEGOVINA
MONTENEGRO
SERBIA

THE WEST BALKANS DRINA RIVER BASIN MANAGEMENT (WBDRBM) PROJECT

	PROJECT DEVELOPMENT OBJECTIVE (PDO): improve mechanisms and capacity of the three counties to plan and manage the transboundary Drina river basin, incorporating climate change adaptation.

PDO Level Results Indicators	**Unit of Measure**	**Base line**	**Cumulative Target Values**				**Frequency**	**Data Source/ Methodology**	**Responsibility for Data Collection**
			YR 1	**YR 2**	**YR 3**	**Y4**			
Improved Mechanisms: Hydrological real time model (including climate change impacts) jointly endorsed and operational	Yes/No	No	No	No	Yes	Yes	Annual	Project Progress Report/Minutes of Meetings	PITs PMT Drina Task Force
Improved Mechanisms: SAP jointly prepared and adopted at ministerial level in all three countries	Yes/No	No	No	No	Yes	Yes	Annual	Project Progress Reports/Formal Endorsement Letter	PITs Drina Task Force MOFTER-PMT
Improved Capacity: Drina Task Force (DTF) operational	Yes/No	No	Yes	Yes	Yes	Yes	Annual	Project Progress Reports/Minutes of Meetings	Drina Task Force PMT PITs
Improved Capacity Data collected and shared for modelling and forecasting	Yes/No	No	No	No	Yes	Yes	Annual	Project Progress Reports	PITs Drina Task Force PMT
Climate change adaptation: 30 percent of SAP activities address climate change issues related to droughts and floods	Percentage	0	0	0	0	30	End target	Final SAP Report	Drina Task Force PITs PMT
Direct project Beneficiaries, of which females	Number	0				500,000 (50% females)	End target	Project Progress Reports	Drina Task Force PITs PMT
Intermediate Results Indicators	**Unit of Measure**	**Base line**	**Cumulative Target Values**				**Frequency**	**Data Source/ Methodology**	**Responsibility for Data Collection**

			YR 1	YR 2	YR 3	Y4			
	Component I: Multi-state Cooperation on International Drina River Basin Management								
Hydrological real-time model combined with a climate change impact module and training delivered to user institutions	Number of user institutions		0	0	4	4	Annual	Project Progress Reports	PITs PMT Drina Task Force
Hydraulic simulation facility extended and includes modern database systems compatible with EU and WMO protocols	Yes/No	No	No	No	Yes	Yes	Annual	Project Progress Reports[8]	PITs PMT Drina Task Force
Hydraulic simulation facility with modern database systems and training delivered to user institutions	Number of user institutions		0	0	4	4	Annual	Project Progress Reports	PITs PMT Data Task Force

Intermediate Results Indicators	**Unit of Measure**	**Base line**	**Cumulative Target Values**				**Frequency**	**Data Source/ Methodology**	**Responsibility for Data Collection**
			YR 1	**YR 2**	**YR 3**	**YR4**			
	Component II: Pilot Investments for Integrated DRB Management and Climate Change Resilience								
HMS equipment purchased, installed and operational	Percentage of cost	No	0	30	70	100	Annual	Project Progress Reports	PITs PMT Drina Task Force
Protocols for data compatibility among three countries developed	Yes/No	No	Yes	Yes	Yes	Yes	Annual	Project Progress Reports	PITs PMT Drina Task Force
Number of public awareness campaigns in the Drina River Basin (3 in total)	Number	0	0	1	2	3	Annual	Project Progress Reports	PITs PMT Drina Task Force
Number of small grants disbursed (20 in total)	Number	0	0	10	20	20	Annual	Project Progress Reports	PITs PMT Drina Task Force

Flood and Drought Preparedness consultations with municipalities	Number	0	0	5	10	12	Annual	Project Progress Reports	PITs PMT Drina Task Force
Number of replicable demonstration-scale activities completed (8 in total)	Number	0	0	2	5	8	Annual	Project Progress Reports	PITs PMT Drina Task Force

Indicator Description

Global Environmental Objective Indicators

Indicator Name	Description (indicator definition etc.)
Improved Mechanisms: Hydrological real time model (including climate change impacts) and hydraulic model jointly endorsed and operational	The model is developed, calibrated and is being used to generate scenarios and forecasts.
Improved Mechanisms: SAP jointly prepared and endorsed at ministerial level in all three countries	The Strategic Action Plan is prepared in consultative manner and is endorsed at ministerial level
Improved Capacity: Drina Task Force (DTF) operational	The three countries appoint representatives to the Drina Task Force and regular meetings - at least bi-annual- are regularly attended by the appointed representatives. THE DTF follows up timely on agreed actions as recorded per meeting minutes.
Improved Capacity Hydro-meteorological data collected and shared for modelling and forecasting	Hydro-meteorological data are collected, including those with the new/renovated measurement stations, and shared in timely manner with the other countries, and used for modeling and forecasting.

Climate change adaptation:30 percent of SAP activities address climate change issues related to droughts and floods	The SAP takes into account climate change issues and it includes mitigation measures among priorities
Direct project beneficiaries	Direct beneficiaries are people or groups who directly derive benefits from an intervention. Please note that this indicator requires supplemental information. Supplemental Value: Female beneficiaries (percentage)
Female beneficiaries	Based on the assessment and definition of direct project beneficiaries, specify what percentage of the beneficiaries are female.

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection[9]
Hydrological real-time model combined with a climate change impact module and training delivered to user institutions	HMSs staff use the hydrological model in the course of work.	Annual	Project Progress Report	PITs, PMT, Drina Task Force
Hydraulic simulation facility extended and includes modern database systems compatible with EU and WMO protocols	Countries HM database linked to the hydraulic simulation facility.	Annual	Project Progress Report	PITs, PMT, Drina Task Force

[9] Data collection and reporting Indicators

Hydraulic simulation facility with modern database systems and training delivered to user institutions	Data from the equipment location is available to all countries.	Annual	Project Progress Report	PITs, PMT, Drina Task Force
HMS equipment purchased, installed and operational	No description provided.	Annual	Project Progress Report	PITs, PMT, Drina Task Force
Protocols for data compatibility among three countries developed	Countries agree on procedures on data exchange.	Annual	Project Progress Report	PITs, PMT, Drina Task Force
Number of public awareness campaigns in the Drina River Basin (3 in total)	No description provided.	Annual	Project Progress Report	PITs, PMT, Drina Task Force
Number of small grants disbursed (20 in total)	No description provided.	Annual	Project Progress Report	PITs, PMT, Drina Task Force
Flood and Drought Preparedness consultations with municipalities	No description provided.	Annual	Project Progress Report	PITs, PMT, Drina Task Force
Number of replicable demonstration-scale activities completed (8in total)	No description provided.	Annual	Project Progress Report	PITs, PMT, Drina Task Force

Annex 2: Detailed Project Description

BOSNIA AND HERZEGOVINA
MONTENEGRO
SERBIA

THE WEST BALKANS DRINA RIVER BASIN MANAGEMENT (WBDRBM) PROJECT

1. The Project includes the following three components:

    1. Multi-state cooperation in transboundary DRB management;
    2. Pilot investments for integrated DRB management including flood and drought management and climate change resilience; and
    3. Project management and monitoring & evaluation.

Project Components:

Component 1: Multi-State Cooperation in Transboundary DRB Management - (Total: US$ 2.946million; SCCF: US$ 0.446 million; GEF IW: US$ 2.500 million).

Sub-Component 1A: Development of an Agreed SAP Mainstreaming Transboundary IWRM and Climate Change Adaptation in National Planning (SCCF: US$ 0.396 million; GEF IW: US$ 2.300 million)

The objective of this Sub-Component is to define and assure rational and equitable management of the DRB for sustainable socio-economic development and the protection of water and other natural resources whilst ensuring no detrimental effects on the shared basin. Under this Sub-Component, effective planning tools will be provided to the riparian countries for enhanced decision making in integrated DRB management, in order to identify trade-offs, and to put in place appropriate policies and reforms, applying IWRM principles and developing climate-change adaptation measures. It has the following five fields of activities:

(1) Preparation of a DRB SAP Including In-Depth Transboundary Diagnostic Scan and Analysis (GEF IW: US$ 0.4)

The main objective of the SAP preparation as a negotiated policy document is the well-defined baseline case of needed interventions so that there is a clear distinction between actions with simply national benefits and those addressing transboundary concerns with their global benefits. Another key objective involves the institutional mechanisms chosen at the regional and national levels for implementing the SAP. The SAP will include three national chapters and a joint "roof" report, as a part and complement to the DRB management plan. This document would identify a prioritized list of short-, medium- and long-term measures and a pipeline of investments for integrated, sustainable management of DRB which would also help leverage additional donor support for the implementation of the investments. The SAP would also include climate change impacts on groundwater as source of water supply. This SAP will build on the output from the WBIF-funded Priority Investment Study (2014-2015). The SAP will be compatible with the Sava and Danube RBMPs (BH, SRB, MNE, regional). Within the framework of SAP will use the results of other projects that are implemented in DRB. The expected outputs include the following:

- in-depth TDA developed and approved;

- baseline conditions identified and environmental status indicators agreed upon and adopted;
- multi-country consultative body established and operational;
- through SAP process, water management targets adopted and a joint harmonized implementing and monitoring program established;
- ad hoc inter-ministerial committees focused on harmonization of existing frameworks, and on priority reforms established by the three riparian countries;
- international support for the implementation of the priority actions consolidated by partnership conference;
- regional SAP adopted at ministerial level by each country;
- media events identified to highlight project's progress and achievements;
- targeted capacity building programs to encourage replication of new practices and techniques carried out;

The period required for implementation of these expected outcomes under Project Sub-Component 1 is 18 months.

(2) Hydraulic and Hydrologic Modelling for the DRB Including Optimization of Reservoir Operation (SCCF: US$ 0.396; GEF IW: US$ 0.8 million)

The main objective of these activities is the establishment and operation of a suitable, jointly endorsed hydrological real-time and hydraulic simulation model combined with a climate change impact module. The model will serve as the first phase prognostic model to be used for flood forecasting and an Early Warning System (EWS). Extension of hydraulic simulation facilities to include development of modern data-base systems compatible with European and World Meteorological Organization (WMO) protocols is provided. The model has the following specific characteristics:

- the model is to support capacity for modeling various hydropower development, flood and drought, and land use scenarios;
- the hydraulic model will include reservoir operation optimization, environmental flow, and sediment transport control;
- the hydraulic model will examine the potential for flood mitigation measures along the Drina River;
- the hydraulic model will include knowledge about the present as well as future water uses, considering the nexus between hydropower generation and environmental protection;
- the hydraulic model would be an updatable one-dimensional package, preferable compatible with similar models applied in the region and by the ISRBC;
- the hydrologic part of the model will rely on HEC-HMS model, as well as on data acquired for the WBIF hydrologic model, both expected in 2016;
- the model requires purchase of incremental equipment (automated flow /level gauges) for low- and high-flow conditions, flow rate – level rating curve determination, and calibration, that would be provided through Project Sub-Component 2A;
- the three countries and the ISRBC are to receive facilities (ICT software and hardware) and training to operate the model; protocols for standardization and for regular updating and maintenance will be agreed.

The implementation period of this set of modelling activities is 18 month, sub-divided as follows:

1) Data collection, compilation, analysis, and exchange (GEF IW: US$ 0.099 million);
2) Hydrological modeling (GEF IW: US$ 0.2 million);
3) Hydraulic modeling (GEF IW: US$ 0.15 million);
4) Reservoir operation (GEF IW: US$ 0.171 million);
5) Sediment – river morphology simulation (GEF IW: US$ 0.171 million); and
6) Purchase of incremental equipment (automated flow/level gauges); ICT software and hardware. (SCCF: US$ 0.396 million).

The model needs will have an impact on the HM equipment spatial distribution that is to be provided from the Project. The activities for the Enhanced Flood Forecasting and Early Warning System in the project will partially address the model.

(3) Preparation of a Water Resources and Basin Study (GEF IW: US$ 0.85 million)

The overall objective of this Study is to define the basin and water resources parameters to inform regional strategies for water resources management, water resources development, energy and hydropower development and rationalization. The Study will propose measures and constraints that will allow determining the levels of sustainability and realism of various hydropower proposals, including compensatory measures and design adaptations to address trade-offs and negative externalities. The Study will specifically take into account the need for IWRM-based decision-making, and the need to define operational guidance for climate change adaptation (BH, SRB, MNE, and regional). It is expected that the Study will result in:

- meeting information demand expressed through the different areas of public and professional interest;
- integrated water resources and basin study at regional level;
- better use of the current development potential in the basin hampered by climate change;
- provision of tools for quick assessment of crucial hydrological parameters related to floods and droughts, the minimum duty flow, and measures intended to cope with torrential flows;
- identification of locations for optimization of suspended sediment and water temperature monitoring network that would lead to improved climate change studies;
- improved information base for mitigation of harmful effects of river banks erosion and sediment accumulation in the riverbed;
- complement to and upgrade of existing water resources and basin studies, including current climate change study results; and,
- development of data protocols.

The Study will be implemented within 24 months and will consist of four background studies (A, B, C and D) and the preparation of a database (E) as follows:

A. Regional Hydrological Study

This Study will include regional analysis of hydrological parameters based on the WBIF - funded Priority Investment Study (2014-2015) results. The Study has to give the comparative parameter analyses for the period before and after hydropower plant (HPP) construction, and under the selected climate change scenario adopted in the WBIF-funded Priority Investment Study (2014-2015). The regional hydrological study will be the first to be prepared within the water resources and basin study. Its results will be used as input to the localized minimum ecological/environmental/maintenance/duty flow study. The study period is 14 months.

B. **Localized Minimum Ecological/Environmental/Maintenance/Duty Flow Study**

Based on the low flow analyses (from the WBIF -funded Priority Investment Study (2014-2015), inputs from the hydrological study and from country-specific legislation/regulations, the minimum duty flow (called differently according to existing legislation of individual countries) is to be determined along the Drina River and its main tributaries at characteristic locations (e.g. where HPPs are in operation and/or are planned). Preparation of this Study will start after the first results of the regional hydrological study are available, about six months after its beginning. The study duration period is six months.

C. Initial Sediment, Riverbed and River Banks Study

This Study will address the Drina River and its first order tributaries. The Study will be based on the sediment monitoring data from hydrological stations, HPP data, and available documentation. Both bed and washload will be analyzed and shown trough a set of indicators. The identification of suitable locations for new hydrological stations where sediment monitoring could be added to other parameters is also expected. This Study will also identify those river reaches characterized by different levels of erosion and river bank damages where bank stabilization interventions are needed, and those where 'the room for the river' approach is applicable. The results would help to identify and implement future river training and other works all along the Drina River and its first order tributaries. The Study will use data from the data base (see below under E) of torrential flows and the regional hydrological study. It will be carried out in 18 months.

D. **Initial Surface and Groundwater Temperature Study**

This Study will conceive the climate change impact analysis on surface and groundwater by monitoring and analyzing relevant parameters and the provision of basic indicators. A trend analysis is expected to be carried out. The Study will also propose locations where surface and groundwater temperature monitoring should be included. The study implementation period is six months.

E. **Preparation of a Database of Torrential Flows**

The database will provide both quantitative and descriptive information on torrential flows. It will serve as a guide for water resources development planning, providing a possibility for quick assessment of the water protection and use potential. The database will include second and higher order tributaries of the Drina River. Each torrential flow will have a diagnostic table with proposed measures according to the type of intervention. The database of torrential flows will be used in the preparation of the localized minimum ecological/environmental/maintenance/duty flow study, and initial sediment, river bed and banks study. The database preparation will last for a period of 12 months. The data and information from the entire Study will have relevance and use for several pilot activities including the Enhanced Flood Forecasting and Early Warning System, and the pilot project in MNE. It will also be consulted for the spatial distribution of HM equipment.

(4) Preparation of Study for analyses of the pollution of DRB (GEF IW: US$ 0.25 million)

The primary objective of this Study is the establishment of a system for solving the floating waste problem in the DRB through a series of measures for disposal and efficient solid waste management. The Study will elaborate a long-term reduction of floating waste in the DRB as well as sustainable water resources management and environmental protection. The specific objective

of the Study is the establishment of cross-border cooperation and cooperation mechanisms among local communities on implementing solid waste management activities. In this way an integrated solid waste management will be introduced in the DRB. The main activities of this Study comprise:

- description of state of environment in terms of solid waste generation and management in the municipalities targeted by the Project, and identification of potential waste generators;
- analyses of morphological waste composition in municipalities, analyses of production, quantity and forecast;
- mapping of unlicensed waste disposal sites within DRB and proposal of future activities for their rehabilitation and closure;
- identification of HPPs waste production;
- identification of main floating waste sources in the DRB;
- proposal of efficient solid waste management and measures for disposal; and
- definition and establishment of measures for the achievement of primary and specific objectives.

This study will be the base for development and for the design of various projects related to pollution in all riparian countries in the future. The Study will be implemented within 6 months.

Sub-Component 1B: Institutional Development and Capacity Building (SCCF: US$ 0.05million; GEF IW: US$ 0.20 million).

The objective of this Sub-Component is to improve the water resources management capacity in the three riparian countries, to strengthen transboundary mechanisms (institutional, technical, and regulatory), and to provide tools and instruments for effective water resources management. This Sub-Component will support the establishment of institutions at regional and national level for joint DRB management and the enhancement of capacities to address transboundary issues and to develop climate change adaptive management frameworks at bilateral, trilateral and ISRBC level. The Sub-Component has three main activities:

(i) Support to the DTF and stakeholders to coordinate DRB activities

The overall task of this activity is the establishment of the DTF responsible –among others- for daily management of regional activities leading towards the preparation of an integrated DRB Management Plan and the prioritization of investment projects under the SAP in close cooperation with the ISRBC (BH, SRB, MNE, and regional)

These activities will provide support and equipment for inter-ministerial committees at regional level, and sub-committees at national level. This activity includes therefore also the design of appropriate regional coordination procedures for transboundary water resources management (BH, SRB, MNE, and regional).

(ii) Support to the preparation of national and local policy and regulatory reforms to facilitate international DRB management

The main goal of this activity is to identify and prepare necessary national and local policy and regulatory institutional reforms to facilitate and apply transboundary DRB management tools (BH, SRB and MNE).

(iii)Participation in GEF IW: LEARN activities

The main goal of this activity is for the stakeholders to get familiar with the GEF International Waters (IW) Learning Exchange and Resource Network promoting experience sharing and

learning among GEF IW projects, country officials, impending agencies, and other partners. The overall goal of IW: LEARN is to strengthen transboundary water management around the globe by collecting and sharing best practices, lessons learned, and innovative solutions to common problems. IW: LEARN also aims to strengthen the IW portfolio as a whole by promoting dialogue, knowledge sharing, and replication between projects.

Component 2: Pilot Investments for Integrated DRB Management Including Flood and Drought Management and Climate Change Resilience (Total: US$ 5.286 million, SCCF: US$ 3.670 million; GEF IW: US$ 1.616 million)

Sub-Component 2A: Strengthening Capacity for Climate Change Resilience (SCCF: US$ 1.748 million; GEF IW: US$ 0.486 million)

The objective of this Sub-Component is to strengthen four hydro-meteorological services (HMSs)/River Basin Authorities with equipment and contributions to the DRB hydro-meteorological observation system in the riparian countries.

This Sub-Component will improve climate change adaptation by better preparation for threats from floods and droughts while making optimal use of the environmental assets of the DRB. The Sub-Component will facilitate reliable and long-term time series of observations essential for climate change analysis and forecasts, determination of minimum environmental flows, and compliance monitoring of HPP concessions. It consists of five parts:

(i) Strengthening of National HMSs with Equipment and Contribution to the Hydro-Meteorological Observation System (SCCF: US$ 1.439 million)

The main objective of this project is to strengthen capacity for climate change resilience at the DRB level by providing facilities for reliable hydro-meteorological parameters monitoring. The conditions of the existing monitoring networks in the riparian countries are imbalanced, and not up to the needs of real-time monitoring and especially not up to the demands of planned hydraulic and hydrological model in this project. In order to provide real-time monitoring data and maintain long-term time series of observations in the DRB, the following activities are designed:

i-1 **Improving the existing meteorological and precipitation station network.** The activity will support procurement and installment of automatic stations throughout the DRB: 13 meteorological, 15 all-weather, and 24 precipitation gauges. In the upper parts of the basin, the network will strengthen capacity to forecast snowmelt and glacier behavior which is, in combination with water level gauges, the central component in an early flood warning system.

i-2 **Facilitating reliable rating curves at hydrological stations.** These activities include the equipment, facilities and works required for trustworthy hydrometric measurements at the cross sections of several key hydrologic stations. In the RS, it is procurement of 30 staff gauges with placers (for attended monitoring) and its instalment, as well as geodetic survey at seven HS cross sections for the ’0’ datum establishment. The HMS of MNE will also be supported for geodetic survey of 10 HSs. For regular hydrometric measurements, four mobile Doppler systems will be procured for each MMS. At two HS locations in MNE’s mountainous terrain, cableways will be procured and installed, and at HS Radalj on the Drina River the cableway facility reconstructed and jointly installed by HMSs of RS and SRB.

i-3 **Rehabilitating, modernizing and completing hydrological stations facilities.** These stations will form the system for calibration and verification of hydrological and hydraulic simulation models in the project, and the base for extension of models in the long run. The project will support procurement, installment, and integration into the existing network of 27 automatic hydrological stations with water level, temperature (optional), flow (optional), turbidity (optional), sensors/devices, power supply and data transfer ability.

i-4 **Modernizing the groundwater monitoring network.** This activity will thus also serve for strengthening climate change resilience by providing basic data for studies of the medium foreseen endangered both in the terms of quantity and quality: groundwater. According to the recent study[10] 20 automatic hydrological stations with water level and temperature sensors, power supply and data transfer ability are needed to complete groundwater monitoring network in the HMS in SRB. Ten out of twenty will be financed from this project.

i-5 **Providing support to soil condition monitoring.** This activity includes the procurement of one agro-meteorological automatic station for FBH and software applications for automatic provision of Standard Precipitation Index (SPI) and LANDSAT satellite data processing (MNE).

(ii) Development of Data Protocols (GEF IW: US$ 0.05 million)

The overall objective of this activity is to improve data compatibility among the three countries. Two specific objectives would together achieve the overall objective of the Project as follows: 1. to provide resources for further implementation of the ISRBC Data Policy: 2. to identify and resolve issues on data harmonization. The three riparian countries are signatories of the Policy on the Exchange of Data and Information for the Management of the Sava River Basin (Data Policy) issued in 2014 by ISRBC. Following the signing of the Policy, ISRBC has developed Sava HIS (Hydrologic Information System), http://savahis.org/his, as a common platform for implementation of the Policy. This Project will support activities related to data issues, including training and periodic meetings of Expert Group for Hydrological and Meteorological issues of the ISRBC .The beneficiaries of this project are: HMS and Water agencies/Ministries in all riparian countries and ISRBC. The implementation period of this activity is 36 months.

(iii) Public Awareness Program (GEF IW: US$ 0.08 million; SCCF: US$ 0.02 million)

The Project will support a broad public awareness program to inform the population in the basin of the objectives and activities under the proposed project and its rationale and potential benefits, and to engage the basin communities into more active partnership. The sub-component will finance (i) information activities by the respective governments as well as under the leadership of the ISRBC; and (ii) a sixth-monthly publication ”Our Drina”; and will provide incremental fund for school and community initiatives in this regard. The public awareness activities will be undertaken by the country PITs.

(iv) Small Grants Program (GEF IW: US$ 0.286 million; SCCF: US$ 0.288 million)

[10]2013-2014 CEI - Know How Exchange (KEP) Project for the improvement of hydro-meteorological monitoring and disaster prevention capacity in SRB, conducted by the Environmental Protection Agency of the Region of Emilia Romagna, Italy , in cooperation with the Environmental Protection Agency of the Republic of Serbia (SEPA) and the Republic HMS of SRB.

This Project will set up a Small Grants Program for each country to (co-) finance small, local initiatives by community organizations, schools, academics, private companies and other entities that have meritorious proposals to support the objective of the pilot project. Grants from US$ 10,000 to US$ 30,000; they must be completed within one year, and a call will be issued two times in the Project duration. The Manual of the NTWBM Project will be adopted for this. The Small Grants Program activities will be undertaken by the country PITs.

(v) Enhanced Flood Forecasting and Early Warning System (GEF IW: US$ 0.07 million)

The overall objective of this activity is to improve coherent flood and drought policy at the basin level. The specific objectives will be as follows: a. to propose coordinated, integrated set of assessment and evaluation programs, decision methods, and funding mechanisms: b. to prioritize actions that affect water resources objectives of flood control, drought mitigation, ecosystem preservation and water quality protection. The main project activity is:

- **Capacity building for implementation of flood and drought resilience measures**. It will be based on prioritization of actions that affect water resources objectives of flood control, drought mitigation, ecosystem preservation and water quality protection. This will include a number of tools for flood management (flood regulations and zoning, floodplain restoration and riparian conservation, erosion control, channel maintenance, levee setbacks, data monitoring, etc.), and drought management (conservation, source diversification, drought restriction regulations, interconnection to neighboring systems, water reclamation and recycling, etc.).
- **Testing implementation of Flood and Drought Preparedness Strategy in 12 pilot municipalities throughout the DRB**. This pilot activity will rely on the existing data, information, and instructions provided through variety of activities in the DRB, including SAP, WBIF-funded Priority Investment Study (2014-2016) project report, hydrological and hydraulic model, Water resources and basin study, and Sava river basin EWS, expected to generate synergic effect, and considered informative enough by stakeholders to serve as substitute for a separate Flood and Drought Preparedness Strategy. The activity will provide 'hands-on' experience for implementation of flood and drought resilience measures, and point to potential gaps in the proposed coordinated, integrated set of assessment and evaluation programs, developed tools, decision methods, and funding mechanisms.

Sub-Component 2B: Pilot Investments for Climate Change Resilience (GEF IW: US$ 1.130 million; SCCF: US$ 1.922 million)

The objective of this sub-Component is to support countries pilot project investments that affect the reduction of the impact of climate change issues. The Sub-Component will support demonstration-scale investments that can be easily replicated by countries, are of high priority to local rural economies in the basin, and would contribute too environmentally and socially-sound integrated development of the river system. The following pilot projects have been agreed upon:

(i) Bosnia and Herzegovina

- **River training along degraded banks of the Drina Riverbed and its tributaries in urban areas (GEF: US$ 0.18 million; SCCF: US$ 0.37 million).** The general objective of this pilot project is to decrease the flood risks and impact of climate change in urban settlements in the DRB. The specific objectives are to provide greater security

for urban areas and city center zones, for potable water intakes and other city water utilities, and for road infrastructure against floods from the Drina River and its tributaries. Project activities include:

- detailed needs analysis and identification of priorities,
- preparation of project documentation, and
- river training works along two water courses with total length of 2 km in Novo Gorazde and recovery works on three landslides in Bratunac municipality.

Pilot project direct beneficiaries will be the municipalities of Foča, Novo Goradžde, Višegrad, Bratunac and Bijeljina. This pilot project will be implemented within 18 months.

- **Flood protection and training of the Lovnica River in the area of the monastery complex Lovnica (SCCF: 0,16 million).** After the disastrous floods in May 2014, the territory of the Municipality of Šekovići recorded a historical maximum discharge of the Drinjača River, to whom the sub-basin of the Lovnica River belongs to. Significant movements of the Lovnica River riverbed and total degradation of banks and the main riverbed are still a real threat to the stability of the monastery complex dating from 14th century, In order to prevent further movements of the water course from the main riverbed towards the existing and future infrastructure , it is necessary to carry out a permanent stabilization of the riverbed along with an obligatory stabilization of the active landslide on the left bank. For this purpose, the required regulation of the Lovnica River was completed in July 2015. There are no property issues. The direct beneficiaries of this pilot project will be the sisterhood of the monastery, tourists and the whole BH, since this intervention would prevent the possible destruction of this historical and cultural good by future floods. The pilot project will be implemented in six months.

- **Preparation of a feasibility study for the identification of leachate[11] at the area of the city of Bijeljina and upgrade of the leachate treatment system at the regional sanitary landfill „Brijesnica“ (GEF: US$ 0.07 million; SCCF: US$ 0.145 million).** The overall objective of this pilot project is surface and groundwater quality protection in the lower DRB from pollution arising from uncontrolled infiltration of wastewater from landfills, which increased in recent years most likely due to climate change (higher temperatures). The pilot project includes the preparation of a Feasibility Study (FS) for the identification of leachate occurring close to Bijeljina, measures for leachate collection, a proposal for adequate treatment, and construction works such as the upgrade of the leachate treatment system at the regional sanitary landfill „Brijesnica“. The regional sanitary landfill "Brijesnica" is located 2 km far from Bijeljina on the left bank of the Majevica channel. There is a system of leachate collection and its partial treatment. The water contained in solid waste as well as the water infiltrated in the landfill, forms the medium in which all soluble substances dissolve, which causes the movement of unreacted material toward the bottom of the landfill. The pilot project will be implemented in 12 month.

- **Feasibility study and preliminary design for waste water collector and treatment**

[11] Leachate is a liquid that has dissolved or entrained environmentally harmful substances that may then enter the environment.

plant for Bosansko-Podrinjski Canton (GEF: US$ 0.335 million). The pilot project objective is the improvement of the environmental protection level, i.e. improve the Drina River water quality, and better manage communal waste waters from Goražde (30,000 inhabitants), Foča FBH (2,200 inhabitants) and Pale FBH Municipality (1,150 inhabitants). The feasibility study includes 7 km of main collector. The future waste water treatment plant (WWTP) can also meet the needs of the neighboring municipallity Novo Goražde in RS. At present, waste water from Goražde area and from the whole Bosnian-Podrinje Canton (BPC) is reaching Višegrad HPP reservoir where it severely affects the water quality and silt pollution. As climate change is producing extreme events, these problems would become even more pronounced. The preparation of a proper project documentation will make it possible to proceed to the next phase towards implementation. The FS will comprise an assessment of water demands and wastewater projections for the wider area of Goražde. Analyses of treatment process options including economic analysis and proposals for phased development will also be included. The preliminary design will be that part of the FS, where key parameters of the WWTP will be defined. It is to apply innovative and replicable practices such as bio-gas usage for energy generation and/or usage of lagoons for purification. Once the WWTP is constructed, measurable indicators will be obtained from water quality monitoring before and after construction. Identified beneficiaries are the BPC population and all downstream municipalities along the Drina River. The pilot project implementation period is 12 months.

(ii) Serbia

- **Conceptual design for flood protection of the Mačva plain, section Loznica-Badovinci (GEF IW: US$ 0.2 million).** The overall pilot project objective is the protection of the Mačva plain, a fertile agricultural area in the Western SRB. This economically very important area of 80,000 ha has a population of 150,000 living in eight municipalities. It is located between the rivers Sava in the north and Drina in the west, and is known as a flood prone zone. Out of 103 km in total, 32 km of flood protection dykes are located in the municipalities of Loznica and Bogatić (section Loznica-Badovinci). Besides the protection of the properties in 19 settlements and 30,000 ha agriculture land, this section is important for the protection of the potable water source in Prnjavor. Water intake from this source is very often affected by floods which has a negative impact on the water supply of Šabac. It is important to note that the Republic of Srpska is currently preparing a project for the flood protection of the left Drina River bank in the vicinity. Once the flood protection is completed on the left bank of the Drina River, future floods would start hitting the Mačva Plain even harder. The missing flood protection from Loznica to Badovinci decreases the efficiency of the existing flood protection of the whole area. As floods are expected to occur more often with higher peaks in the future as a result of climate change, this pilot project would increase the flood resilience level of a large area. A conceptual design will enable the SRB to prepare the remaining project documentation at a value of US$ 330,000, and intensify the completion of flood protection works of the whole area (approximate construction value is US$ 40 million). The proposed period for the preparation of the conceptual design is 12 months.

- **Upgrade of existing flood protection along the Lim Riverin Šarampov in the**

municipality of Prijepolje (SCCF: US$ 0.815 million). The main pilot project objective is the protection of the upstream part of the city of Prijepolje (Šarampov) from floods caused by the Lim River. Prijepolje city with 14,000 inhabitants is located at an altitude of 450 m asl. There are flood protection structures, but Šarampov with 1,000 inhabitants is located at an altitude of 445 to 448 m asl and lacks flood protection . The Sarampov suburb properties (250 houses) and its surrounding land of 10 ha were flooded six times during the last 10 years. During such flood events, the road to the villages located in the area close to Šarampov and Prijepolje is blocked. Around 1,000 citizens in Šarampov and 3,000 citizens in two neighbouring villages have no access to the municipal centre. Šarampov has no secured flood protection for about 600 m along the Lim River: Section 1 - from crossroad Polimska street – Sestara Cvijović street to Šarampov bridge (170m of existing low level flood protection structure – concrete bank wall); Section 2 - from Šarampov bridge to "Point 1." (170 m with existing low level flood protection structure – concrete bank wall); Section 3 – from "Point 1." to high level terrain (270m without flood protection structure). Settlement experienced floods and damages very often, even before intensive climate changes. The Ministry of Agriculture and Environment, and PWMC Srbijavode, who is responsible for flood defence measures at national level, intend to improve the flood protection level with new mobile structures in the coming two years. The pilot project would provide the foundation of the mobile flood protection and procure the mobile equipment . Implementation of this pilot project would provide improvement of the existing flood protection in Prijepolje, but at the same time could be replicable throughout the DRB. It would represent the introduction of new mobile flood protection practices and thus an innovation in the DRB. The pilot project implementation period is 12 month.

(iii) Montenegro

1. Assessment of climate change impacts on groundwater in Lim, Piva and Cehotina river basins and impacts on floods and drought in Lim River Basin and their prevention (GEF IW:US$ 0.44 million; SCCF: US$ 0.336 million)

1. Assessment of climate change impacts on groundwater aquifers in the Lim, Piva and Cehotina river basins (GEF IW: US$ 0.19 million; SCCF: US$ 0.236 million). The main pilot project objective is the determination of the impact of climate change on the groundwater (GW) level, and the identification of an option for groundwater supply. Even though MNE is regarded a country abundant in water, uneven spatial and temporal precipitation distribution result in the fact that many areas are waterless and that local population is faced with water shortage. In order to achieve the pilot project objective, hydro-geological explorations would be conducted. Based on these explorations, communication lines between surface waters and groundwater aquifers would be determined as well as GW levels, aquifer capacity, water quality and their use for water supply to the local population verified. The pilot project implementation period is 12 months and it will be implemented through two activities which will answer questions about climate change impact on GW levels in the river basins of Lim, Piva and Cehotina, comprising the following activities:

- Field work: selection of pilot locations in the river basins of Lim, Piva and Cehotina; definition of two areas per location; exploration drilling; monitoring of groundwater levels and spring discharges, and

- Development of a groundwater model considering climate change aspects.

2. Flood prevention and irrigation in the Lim River Basin with the aim of mitigating the impact of climate change (GEF IW: US$ 0.25 million; SCCF: US$ 0.1 million). The objective of this pilot project is the identification of climate change impact on floods and droughts in the Lim River Basin and their mitigation. Annual precipitation varies but does not show any tendency to increase or decrease. The north-eastern area of MNE (Bijelo Polje), however, is an exception. In the north-eastern part of the country, annual precipitation has been increasing since 1949, while the coastal zone records a slight trend of decline. Intensive rainfall (so-called "cloud-bursts") which occurred in 2010 and 2011 resulting in massive flooding along the many rivers, especially along the Lim River, additionally corroborate this hypothesis. The lower Lim River Valley holds the biggest share of arable land in MNE (62,000 ha corresponding to 5 percent of MNE territory). Though irrigated agriculture has been practiced in the past, there is hardly any irrigation development today, lacking clearly defined goals and investment policies. The pilot project would be implemented in 12 months and comprises the following activities:

a) Flood prevention - Identification of flood prone areas, preparation of flood zone maps; determining critical sections; preparation of an Action Plan for flood prevention including implementation of exemplary flood prevention measures.

- Education of population related to anthropogenic impacts on floods, mitigation and reduction of flood risks by means of appropriate spatial planning and land; preservation of vegetation of swamps, forestation of barren land; protection with gabion walls and embankments on critical sections; etc.
- Works on critical sections, such as biotechnical measures (planting vegetation on slopes and erosion-prone land), regulation works outside riverbeds (construction of embankments, gabion walls), in accordance with Action Plan.

b) **Analysis of irrigation needs in the valley of the Rivers Lima and Vranješka**

- Definition of irrigation options and needs for agricultural production areas in order to increase crop yield;
- Identification of potential locations for irrigation; and
- Preparation of conceptual irrigation system designs.

Component 3: Project Management, Monitoring & Evaluation and Auditing (Total: US$ 0.50 million; SCCF: US$ 0.25 million; GEF IW: US$ 0.25 million)

- This Project Component will support the regional PMT (under MOFTER) which will be established and responsible for overall project coordination at regional level. It will also support the four PITs (the FBH PIT being managed by the PMT, see Fig. 1 in main text and Annex 3) who will be responsible for the day-to-day implementation of project activities at national level. The PMT will be accountable to the Drina Task Force, in which the ISRBC could be an Observer. Activities of implementation agencies include: management of the project; monitoring of project progress and outcomes; and training for national and local government officials in project management/implementation; The Project will also provide office equipment, cover project operation costs and incremental staff costs for procurement and financial management in SRB and MNE.

Annex 3: Implementation Arrangements

BOSNIA AND HERZEGOVINA
MONTENEGRO
SERBIA

THE WEST BALKANS DRINA RIVER BASIN MANAGEMENT (WBDRBM) PROJECT

A. Project Institutional and Implementation Arrangements

1. The Project will be implemented by the ministries and/or government/entity agencies responsible for water management in the three participating countries. For Bosnia Herzegovina, the Ministry of Foreign Trade and Economic Relations (MOFTER) Project Management Team (PMT) will be responsible for the implementation, including fiduciary (FM and Procurement) of all joint activities among riparian countries, as well as for the Federation BH's activities. The Ministry of Agriculture, Forestry and Water Management (MAFWM) Agriculture Project Coordination Unit (APCU) will be responsible for implementation of the activities located in Republika Srpska. Federal Ministry for Agriculture, Water Management and Forest (FMAWMF), Agency for Sava River Basin and Federal Hydrometeorological Service (FHMS) will provide technical support for project implementation in Federation BH. Public Enterprise "Vode Srpske" (PE "Vode Srpske") and Hydrometeorological Service of Republic of Srpska (RSHMS) will provide technical support for implementation in RS respectively. In Serbia, the main responsibility for the implementation will be with the Ministry of Agriculture and Environmental Protection (MAEP) and its Directorate for Water (DW) Project Implementation Team (PIT), and technical support will be provided by the Republic Hydrometeorological Service (RHMS) and Public Water Resources Management Company (PWMC) "Srbijavode". In Montenegro, a PIT in the Directorate for Water Management (DWM) of the Ministry of Agriculture and Rural Development (MARD) will be responsible for overall project implementation, while fiduciary responsibilities will be performed by the Ministry of Finance's Technical Service Unit (TSU).Technical support will be with Hydrometeorological Service (HMS) and Water Directorate (WD) in the same ministry. Technical supervision for projects carry out by Ministries of the three riparian countries according to the individual roles and regulations.

2. For activities under Component 1 and Sub-component 2A, the PMT in MOFTER will take the coordinating and implementing role between the riparian countries and will serve as a liaison with the WB. Depending on the nature of activities, special board will be established enabling participation of all riparian countries via designated representatives. They will be carried out in close activities coordination and under the overall guidance of the Drina Task Force (DTF). This DTF will have 7 members in total: two from SRB, two from MNE and three from BH.

3. The DRB riparian countries are experienced in implementing Bank-financed projects which increases the likelihood of successful implementation of the proposed Project. PIT in Serbia will be strengthened with external experts for implementation of the project (FM, Procurement, M&E, Audit, Safeguard capacities). In Montenegro PIT will seek support from external experts as needed (M&E, Audit and Safeguard capacities). FM and Procurement will be done by TSU. If any other expertise is required on implementing agencies it will be mobilized as needed upon agreement with the WB team. Moreover, the joint partnership between BH, MNE and SRB was

strengthened during preparation phase and the regular joint regional coordination meetings of the technical working group.

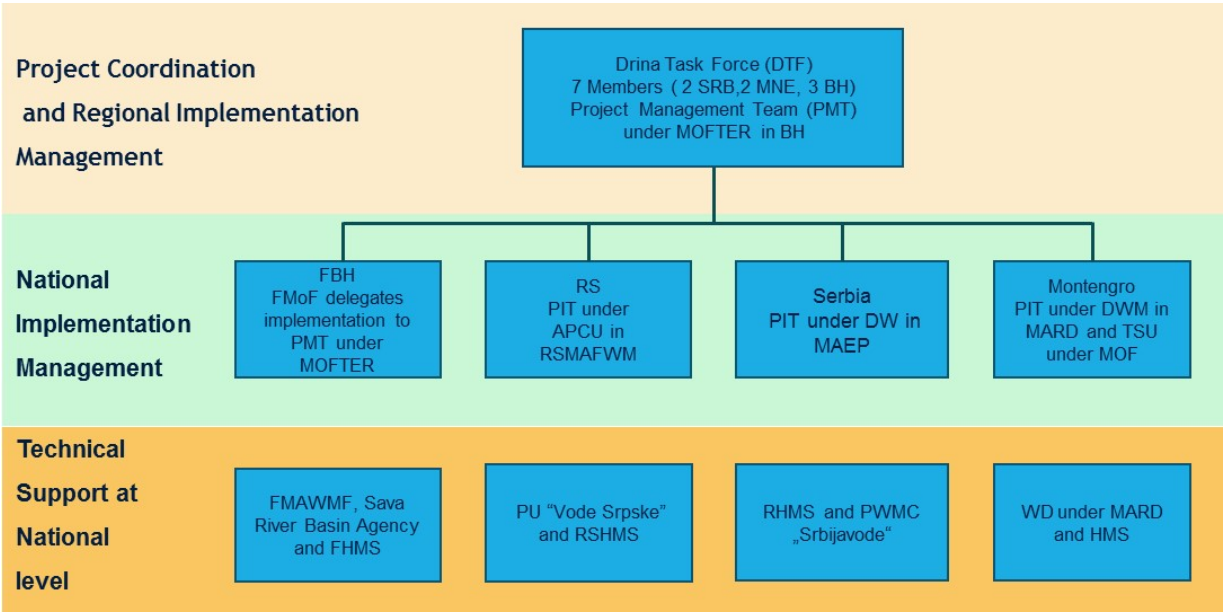

Figure 2: Implementation Arrangements

4. The monitoring and evaluation of outcomes and results during Project implementation will follow standard WB practice. It will be based on existing data sources, supplemented by data collection within the Project and special surveys and assessment updates. PMT in MOFTER will be responsible for overall M&E implementation and coordination between the riparian countries and will serve as a liaison with the WB at the regional level and PITs in each of the riparian countries/entities. PMT and PITs will monitor activities and report project progress, measuring economic, social and environmental benefits of the project by reporting on pre-selected project indicators, as presented in the Results Framework. The M&E reports will be presented as part of the regular progress reports. The PMT and PITs will collect and present data and reports for semi-annual reviews by the DTF and country institutions responsible for water management, in conjunction with supervisory missions.

5. The PMT and PITs will be responsible for monitoring project performance and achievement of project outcomes and results. These agencies are already implementing the ongoing projects in riparian countries respectively, and have adequate capacity to carry out the monitoring and evaluation tasks under the Project.

6. For all project indicators presented in Annex 1, semi-annual reports will be submitted to the WB in order to monitor project progress and identify and take action in a timely manner to address any problems that may emerge. GEF and SCCF Tracking tools will be completed and submitted at inception, mid-term and project closure.

B. Financial Management, Disbursements and Procurement

Financial management

7. The overall financial management risk for the project substantial before mitigation measures, and with adequate mitigation measures agreed, the financial management residual risk

is moderate. The Inherent Risk of the project is rated as moderate, while the controls risk is rated as substantial before the mitigation measures. After introduction of mitigation measures such as having a short-term financial management consultant for PIT, obtaining FM software for PIT as well as having a private audit firm to audit the entire Project.

Budgeting and Counterpart Funding Arrangements

8. The **PIT, PMT, APCU and TSU** have acceptable planning and budgeting capacity. Budgeting is based on procurement plan and approved by project management in respective line ministry/agency. Budgets are entered in the accounting system. Variances of actual versus budgeted figures are reported, monitored and explained. There is 2 million dollars government counterpart funding envisaged for this Project.

9. **Staffing.** The staffing of the **PIT, PMT, APCU and TSU** is appropriate and there is skilled staff engaged with prior experience in World Bank funded projects. The terms of references for the FM staff will be appended to the Project operational manual.

10. **Accounting and Maintenance of Accounting Records.** Accounting policies and procedures are appropriate. For project accounting simple cash accounting method is being applied in all 4 units. There will be a Project operational manual describing appropriate procedures and policies. Accounting system used for all projects accounting and reporting is assessed to be reliable, except the one used in PIT that comprises of using a simple excel workbook. In order to strengthen the accounting and reporting arrangements of the PIT it is proposed that a sound FM software is obtained for project purposes. In PMT, APCU and TSU there is the same FMS sys software installed. It is assessed to provide accurate and reliable accounting information. Accounting data is backed up on weekly basis on external drives and on servers. Accounting policies and procedures to be applied for project accounting include the following major assumptions and principles:

- cash accounting as the basis for recording transactions;
- appropriate analytical accounting records exist by contracts and payments;
- reporting should be done in currency of the grant (reporting currency);

11. **Internal Controls and Internal Audit.** PIT, PMT, APCU and TSU have adequate internal controls for the Project, including regular reconciliation of bank accounts, adequate segregation of duties, proper accounting policies and procedures and monthly reconciliation of disbursement summaries of the WB with Project accounting records is performed.

a) There are regular reconciliations: SOE are reconciled with the excel project data for every withdrawal application, Designated Account reconciliation is also performed with treasury records (where applicable), client connection figures are reconciled monthly with the project accounting records. PIT, PMT, APCU and TSU maintain a list with all the payments made out of the Designated Account, which is used for SOE reconciliation.

b) The access to the accounting software are password protected; there is only accounting staff access to the systems. The journal entries cannot be altered once they are made. Any changes can be done only with reversal of the initial journal and posting the correct one. The software that have PMT, APCU and TSU can generate reports that can be used for reporting purposes; while PIT has no appropriate software and is maintaining project accounting in an excel workbook. As result PIT will need to obtain a sound FM

software that has an option of automatic generation of IFRs. This is set as a disbursement condition.

c) As a minimum the PIT will maintain in excel spreadsheets tables for each contracts, where all the payments are monitored, including the reception protocol.

12. **Periodic Financial Reporting.** The PITs shall prepare and furnish to the World Bank not later than forty five (45) days after the end of each calendar semester, interim unaudited financial reports for the project covering the semester, in form and substance satisfactory to the Bank. PIT, PMT, APCU and TSU that are currently implementing other WB - financed projects had been up to date with the submission of the periodic Interim un-audited Financial Reports (IFRs) and such reports were found acceptable and are listed below:

Country	Project	FM arrangements
BH	P090675 Sarajevo Waste Water Project	PMT
BH	P143921/ TF 17727 GEF Adriatic Sea Environmental Pollution Control Project	PMT
BH	P145048/ TF 19380 and TF 19385 West Balkans DRB Management	PMT
BH	P115954 Irrigation Development Project	APCU
BH	P101213 Agriculture and Rural Development Project	APCU
BH	P151157 BiH Floods Emergency Recovery Project	APCU
SRB	P152018 Floods Emergency Recovery Project	PIU
MNE	All projects (Land Administration and Management Project (LAMP), (P106906, IBRD 76470), Energy Efficiency in Public Buildings (EEPB) P107992, IBRD 76370, Institutional Development and Agricultural Strengthening (MIDAS) P110602, TF 93405 and P107473, IBRD 77160, Higher Education Research for Innovation and Competitiveness Project (HERIC) (P122785, IBRD 81180), Industrial Waste Management and Clean Up project (IWM) P122139, IBRD 84280)) and EU/IPA Agriculture and Rural Development Institution Building (ARDIB) (P144994, TF018039).	TSU

The IFRs will include the following reports stated in the currency of the grant:

- Statement of Sources and Uses of Funds;
- Uses of Funds by Project Activity;
- Statement of Designated Account.

13. **External Audit.** PIT, PMT, APCU and TSU will be responsible for the timely compilation of the annual project financial statements for the independent external audit. Project financial statements will be audited by an independent auditor acceptable to the Bank. Each audit of the Financial Statements shall cover the period of one (1) fiscal year of the Recipients, commencing with the fiscal year in which the first withdrawal was made under the Grant. The terms of reference for the audit have been agreed with the Bank, and will be attached to the Minutes of Negotiation. In addition, the auditors are expected to deliver management recommendation letters in relation to the project. Each management recommendation letter will identify internal control deficiencies and accounting issues, if any.

Audit report	Due date
Project financial statements. The Project financial statements include (i) Project Balance Sheet, (ii) Sources and Uses of Funds, (iii) Uses of Funds by Project Activity, (iv) SOE Withdrawal Schedule, (v) Designated Account Statement, (vi) Notes to the financial statements.	Within six months of the end of each fiscal year and also at the closing of the project

14. Th**e** audited Project Financial Statements will be made publicly available in a timely fashion, and in a manner acceptable to the WB. The audited Project Financial Statements will be published on a web site one month after the Bank has sent official audit acknowledgement letter.

15. There are no overdue audit reports for projects in the BiH, and MNE portfolio. For SRB there is one overdue audit report for the Serbia Regional Development Project covering years 2013 and 2014.

Flow of funds and Disbursements

16. There will be two Designated Accounts opened for PITs in Bosnia and Herzegovina one designated account for Montenegro and one for Serbia. in a financial institution acceptable to the WB. PMT will manage one account that will be joint for MoFTER and for the FBIH, while the APCU will manage the designated account on behalf of Republika Srpska.. The individual accounts will be pooled i.e. GEF with SCC. The currency of all designated accounts will be US$.

17. The Designated Account for MoFTER and Republika Srpska will be opened in a commercial bank acceptable to the WB and such accounts will be opened by Ministry of Finance and Treasury.

18. A Designated Account for SRB PIT will be opened at the National Bank of SRB and will be administered by the PIT within the DWM.

19. Designated Account for MNE TSU will be opened in a commercial bank acceptable to the WB.

20. Disbursement from the Grant Account will follow the traditional method, either through: reimbursement, advances to designated accounts and direct payments to suppliers. Withdrawal applications will be approved by authorized persons and thereafter sent to the Bank directly using the e-disbursement facility by the implementing units.

21. Supporting documents for SOEs will be retained by the Implementing Units and made available to the Bank during Project supervision. Disbursements for expenditures above the SOE threshold levels will be made against presentation of full documentation relating to the expenditures. The reimbursement of expenditures from the Designated Account may be made on the basis of certified SOEs, based on the SOE thresholds defined in detail in the Disbursement letters. The ceiling and authorized allocation for the Designated Accounts will be defined in the project Disbursement Letters.

22. For part of the project implemented by Serbia and Montenegro the grant funds will not be used for funding of Value Added Taxes (VAT) and as result the countries will be able to initiate the procedure to exempt the project from paying VAT according to relevant procedures determined in the local laws and regulations of the respective countries. The VAT for BiH can be paid from the proceeds of the grants and the refunded VAT will be used for funding relevant project activities in BiH.

23. There is government contribution in kind under the Project envisaged. The total in kind contribution is minimum 2 million dollars for the entire Project.

Financial Management Action Plan

Action	Deadline	Responsibility
Prepare FM section for the Project Operations Manual, which also include Small Grants chapter	Effectiveness condition	All four implementing teams in the three countries
Obtain FM software for proper project accounting	After Effectiveness	PIT of DW Serbia

24. **Implementation Support and Supervision Plan.** The WB will apply a risk based approach in undertaking project supervision activities that will include reviews of periodic reports, review of audited annual audited financial statements together with auditors' management recommendation letters; monitoring implementation of agreed remedial actions; and addressing emerging issues in collaboration with implementing units.

25. **Contract management.** In the PIT, PMT, APCU and TSU will maintain technical and financial database of all project contracts. The technical database shall be updated by procurement staff on a regular basis. Such database will have available all information on contracts, any annexes which were concluded as well as any payments made up to date. The FM managers will maintain an overview overall Project-related payments and thus control and are able to avoid any overpayments.

26. **Use of country systems.** The project will use elements of country systems such as: staffing, accounting, treasury, planning and budgeting, partially internal controls where feasible.

Procurement Implementation and Arrangements

27. ***General*** --Procurement for the Project will be carried out in accordance with the WB "Guidelines: Procurement of Goods, Works and Non-consulting Services Under IBRD Loans and IDA Credits & Grants" dated January 2011, revised July 2014 (Procurement Guidelines); and "Guidelines: Selection and Employment of Consultants Under IBRD Loans and IDA Credits &Grants by WB Recipients" dated January 2011, revised July 2014 (Consultant Guidelines) and the provisions stipulated in the Financing Agreement. The procurement actions under different expenditure categories are described in general below. For each contract to be financed under the Financing Agreement, the various procurement or consultant selection methods, the need for pre-qualification, estimated costs, prior review requirements, and time frame have been agreed between the Recipient and the Bank in the respective Procurement Plan(s). The Procurement Plan(s) will be updated at least annually or as required to reflect the actual project implementation needs and improvements in institutional capacity. A General Procurement Notice is expected to be published early in 2016 in UNDB on-line and in its printed version. Specific Procurement Notices will be published for all International Competitive Bidding procurement and Consulting contracts per Guidelines, as the corresponding bidding documents and requests for proposals become ready and available.

28. ***Goods***– Goods and equipment estimated to cost US$500,000 or more per contract will be procured through International Competitive Bidding (ICB). Goods and equipment estimated to

cost less than US$500,000 per contract will be procured through National Competitive Bidding. Readily available off-the-shelf goods estimated to cost less than US$100,000per contract each may be procured through Shopping on the basis of three written quotations obtained from qualified suppliers. The WB sample for Invitation to Quote shall be used. Direct Contracting method for goods consistent with justifications per Procurement Guidelines will be also specified in the Financing Agreement and it will be subject to the WB prior review.

29. ***Works–*** Works estimated to cost US$2,000,000 and more per contract will be procured through International Competitive Bidding. Works estimated to cost less than US$2,000,000 per contract will be procured through National Competitive Bidding. Smaller works estimated to cost less than US$200,000 per contract will be procured through Shopping procedures on the basis of three written quotations obtained from qualified contractors. The WB sample for Invitation to Quote shall be used. Direct Contracting method for works consistent with justifications per Procurement Guidelines will be also specified in the Financing Agreement and it will be subject to the WB prior review.

30. ***Consultant Services and Training–*** Consultancy services to be provided by consultancy firms estimated to cost US$300,000 or more per contract will be procured through Quality and Cost Based Selection method. Consultancy services to be provided by consultancy firms estimated to cost less than US$300,000 per contract may be procured through Consultants' Qualifications method. The consultancy firm for project audit will be selected through Least Cost Selection method. Other methods such as Fixed Budget Selection, Quality Based Selection, and LCS shall be made available through financing agreement irrespective of the amount. Short-lists of consultants for services estimated to cost less than US$100,000 equivalent per contract may be composed entirely of national consultants in accordance with the provisions of paragraph 2.7 of the Consultant Guidelines. Single Source Selection method for consultants firms consistent with justifications per Consultants Guidelines will be also specified in the Financing Agreement and it will be subject to the WB prior review.

31. ***Individual Consultants*** - will be selected in accordance with Section V of the consultancy Guidelines. Single Source Selection method for individuals consistent with justifications per Consultant Guidelines will be also specified in the Financing Agreement and it will be subject to the WB prior review. The Procurement Plan shall specify the circumstances under which such methods may be used. Universities and research centers, and government officials and civil servants in the recipient's country, may be hired as consultants only when they meet the eligibility criteria set forth in paragraph 1.11 of the Consultant Guidelines.

32. ***Operating Expenses*** - The operating costs for PITs may cover *inter alia* expenses incurred on account of Project implementation, management and monitoring, including office supplies, publication of procurement notices, vehicle operation, office and equipment maintenance and repair, communication, translation and interpretation, travel and supervision costs, expenses incurred by the member of the Drina Task Force, other committees (if established) to additionally coordinate and/or monitor the project implementation on country or regional level, financial audit of the project and other miscellaneous costs directly associated with Project, but excluding salaries of officials and employees of the Recipients: BH, MNE and SRB. All such costs would be disbursed on the basis of annual budgets to be prepared by the PIT sand agreed with the Bank.

33. ***Procurement under Grant program*** - Procurement procedures under grants under the project will be established in the Grant Operational Manual, acceptable to the Bank.

34. ***Training and Training Plan*** - The institutions providing standard training, conducting seminars and organization of study tours would be selected on the basis of analysis of the most suitable program of training offered by the institutions, availability of services, the period of training and the reasonableness of cost. However, consultants hired to deliver training under the Project shall be selected in accordance to the selection methods as stipulated in the Consultant Guidelines applicable to the project. An annual training plan shall be prepared and agreed with the Bank. It will include information on the title of training, institution that shall provide it, timeline, cost, number, position and names of relevant people to be trained. The training plan shall be updated in agreement with the Bank through the duration of the Project at least annually or as required to reflect the actual project implementation needs.

35. ***Prior Review Thresholds*** - The prior review thresholds proposed for the project are properly reflected in the joint procurement plan for the three riparian countries.

36. ***Post Review Ratio*** - Contracts not subject to Bank's prior review will be post reviewed by Bank's supervision missions and/or during regular post-reviews by PAS on sampling basis, i.e. 1 out of every 5 contracts. Post review ratio is 20percent.

B. Assessment of the agency's capacity to implement procurement

37. The ***project*** will be implemented by the ministries responsible for water management in each of the three riparian countries. All the project ministries have been closely involved with the Bank-supported Non-Lending Technical Assistance as well as designing the ToR for the work to be funded under the WBIF.

38. Government cooperation in implementation of these TA activities as well as other projects related to water management, including flood management, has demonstrated their full support and commitment to the proposed project. There is a deep recognition of the need for collaborative action on sustainable management of the DRB to harness its potential and balance the competitive uses of its water resources across sectors. The three ministries are experienced with implementing Bank-financed projects which increases the likelihood of successful implementation of the proposed project.

39. The Drina Task Force will be responsible for the overall project implementation, and will be composed from three (3) representatives from SRB, three (3) representatives from MNE, and five (5) representatives from BH.

40. In **BH**, this would include the state-level MOFTER and the FBH Ministry of Agriculture, Water Management and Forestry and its Sava River Basin Agency, and the RS MAFWM and RS Waters. Also, MOFTER is going to coordinate, among countries, the project implementation activities in close cooperation with relevant authorities (a ministry for water management and/or relevant agencies responsible for water protection) from MNE and SRB.

41. The project implementation activities which are joint activities in the BH will be implemented through a PMT of the state-level at MOFTER. The PMT of MOFTER will be responsible for preparing and carrying out technical, procurement and financial management, supervision, reporting, and evaluation of the joint project activities during the project implementation period. In addition to it, the PMT will be responsible for the project implementation including fiduciary responsibilities for activities located in FBH. In that respect they will be supported, on need basis, by representatives of the FBH Ministry of Agriculture, Water Management and Forestry and its Sarajevo Water Agency.

42. In RS, responsibility for implementation of the project activities located in RS rest with the APCU, implementing unit established within the RS MAFWM (MAFWM). The APCU will be responsible for fiduciary responsibilities and will be supported, on need basis, by experts of the RS MAFWM and RS Waters.

43. Based on findings of the previous and updated assessment of the capacity of the MOFTER's PMT and the RS MAFWM's APCU to conduct procurement under ongoing World Bank financed projects, the Bank has concluded that PMT and APCU include experienced and knowledgeable procurement professionals, employed on full-time basis, who have sufficient professional experience relevant to procurement under the Bank procurement procedures. However, these experts are fully occupied with ongoing projects and may not have time for additional responsibilities. The PMT will be financed by a government contribution in case of MOFTER, and in case of the RS MAFWM's APCU additional / partial procurement staff will be financed by the project funds.

44. In **SRB**, the Water Directorate within the MAFWM has the primary responsibility for water management and will be the main implementing agency for SRB. Based on the assessment of the capacity of the PIT to conduct procurement, the Bank has concluded that position of a procurement specialist is yet to be staffed with local consultant hired under the TOR acceptable to the Bank. The PIT including fiduciary staff will be financed by project funds.

45. In MNE, the MARD has primary responsibility for water management, while the Ministry of Environment and Sustainable Development is responsible for water quality. While both ministries will be closely involved with project implementation, the line ministry would be the MARD that would implement the project through its Water Directorate. The TSU has been established within the Ministry of Finance to provide fiduciary services to the WB financed projects. The TSU will be in charge of all procurement activities related to the project and would provide such services to the implementing entity. The TSU is staffed by two procurement officer comprising a Senior Procurement Specialist, and a Procurement Specialist. Two procurement officers possess sufficient professional experience relevant to procurement under the Bank procurement procedures.

46. Based on the assessment of the capacity of the TSU to conduct procurement, the Bank has concluded that position of a procurement specialist is staffed with full-time consultant(s) who has sufficient professional experience relevant to procurement under the Bank procurement procedures. Based on the assessment of the capacity of the recipients, the Bank determines that the overall risk for procurement is Moderate.

C. Procurement Plan

47. Each of the implementing agencies at appraisal developed a joint Procurement Plan for the first 18 months of the project (see below). The joint Procurement plan may be separated in several procurement plans for their easier follow up. MOFTER will be responsible for monitoring and updating the joint/project procurement plan. Procurement Plan(s) will be agreed upon between the Borrower and the Bank at negotiations, and will be available at the implementing agencies' project database and will be published on the Bank's external website in accordance with paragraph 1.16 of Procurement Guidelines and paragraph 1.24 of the Consultants Guidelines. The Procurement Plans will be updated in agreement with the Bank at least annually or as required to reflect the actual project implementation needs and improvements in the implementing agencies institutional capacity.

D. Frequency of Procurement Supervision

48. In addition to the prior review supervision to be carried out from Bank offices, the capacity assessment of the Implementing Agency has recommended two (2) supervision missions to visit the field to carry out post review of procurement actions.

F. Details of the Procurement Arrangements Involving International Competition and Procurement plan

				Financing in USD												
Item:	Activity #	Activity	Type	TOTAL	SCCF + GEF	Proc. method	Pcks.	Post/Prior	Issue	Bids received	Ctr. Signed	Ctr Complete	Contract amount in USD	Disbursed amount in USD	Difference between cost estimate and contracted amount in %	NOTE
Component 1: Multi-state Cooperation on International Drina Management				**2,946,000**	**2,946,000**											
Sub-component 1.A: Development of an agreed Strategic Action Program (SAP) mainstreaming transboundary IWRM and climate change adaptation in national planning.				**2,696,000**	**2,696,000**											
1	**1.A.1**	**Preparation of a Drina Basin Strategic Action Program (SAP)**	**CS**		**400,000**	QCBS	1	Prior	Oct-17	Feb-18	Apr-18	Oct-19				
2	**1.A.2**	**Hydraulic and Hydrologic Model for the Drina River Basin with Reservoir Operation Optimization**	**CS**		**800,000**	QCBS	1	Prior	Dec-16	Mar-17	May-17	May-19				
3	**1.A.3.**	**Purchase of incremental equipment (automated flow /level gauges) and ICT software and hardware**			**396,000**											
4	1.A.3.2.1	ICT - hardware, server	**G**		9,000	SH	1	Prior	Dec-16	Jan-17	Feb-17	Mar-17				
5	1.A.3.2.2	ICT - software (licences, basic server software, 2 client applications + automation module). Installation and training at customer's site.	**G**		387,000	DC*	1	Prior	Dec-16	Jan-17	Mar-17	Mar-20				
6	**1.A.4**	**Preparation of water resources and basin study**	**CS**		**850,000**	QCBS	1	Prior	Mar-17	Jul-17	Sep-17	Sep-19				
7	**1.A.5**	**Preparation of Study for analyses of the pollution of DRB**	**CS**		**250,000**	CQ	1	Post	Dec-17	Feb-18	Mar-18	Sep-18				
Sub-component 1.B: Institutional Development and Capacity Building				**250,000**	**250,000**											
8	**1.B.1**	Support to the DTF and stakeholders all coordination DRB activities	**OC**		140,000	SOE	multiple	NA	during the life of the project - till **2020**							
9	**1.B.2**	Procurement of equipment	**G**		15,000	SH	1	Post	Dec-16	Jan-17	Feb-17	Mar-17				
10	**1.B.3**	Support to preparation national and local policy and regulatory reforms to confirm to the international DRB management	**CS**		45,000	CQ	1	Post	Feb-17	Mar-17	May-17	Nov-18				
11	**1.B.4**	Participation in GEF IW:LEARN activities	**TR**		50,000	SOE	multiple	NA	during the life of the project - till **2020**							

Component 2: Pilot investments for Integrated Basin Management and Climate Change Resilience					**5,286,420**	**5,286,420**										
Sub-component 2.A : Strengthening capacity for climate change resilience.					**2,234,000**	**2,234,000**										
12	**2.A.1**	**Strengthening the Hydrometeological Services by procuring equipment in BiH (FBiH and RS), Serbia and Montenegro**	**G**		**1,433,500**	ICB	3	Prior	Dec-16	Feb-17	Apr-17	Dec-17				
13	2.A.1.1	**LOT 1:Improving the existing meteorological and precipitation stations network**			576,000											
14	2.A.1.2	**LOT 2: Providing conditions for the reliable rating curves at hydrological stations**			554,500											
15	2.A.1.3	**LOT 3: Rehabilitation, modernizing and completing hydrological stations facilities, groundwater station monitoring network and providing agrometeorological automatic station and software applications for automatic provision of SPI and LANDSAF**			303,000											
16	**2.A.1.2.**	**Procurement of software applications for SPI and LANDSAT**	**G**		**5,500**	DC*	1	Prior	Jun-17	Jul-17	Aug-17	Sep-17				
17	**2.A.2**	**Develop protocols to improve data compatibility among the three countries**	**TR**		**50,000**	SOE	multiple	NA	during the life of the project - till **2020**							
18	**2.A.3**	**Public Awareness Program**	**CS**		**100,000**	CQ	1	Post	during the life of the project - till **2020**							
19	**2.A.4**	**Small Grants Program**	**TR**		**575,000**	NA	during the life of the project - till 2020									
20	**2.A.5**	**Enhanced Flood Forecasting and Early Warning System at regional scale to complement the existing ones in the riparian countries**			**70,000**											
21	2.A.5.1	Capacity building for implementation of flood and drought resilience measures - trainings, seminars and workshops	**CS**		70,000	CQ	1	Post	Jul-16	Sep-16	Oct-16	Aug-18				

Sub-component 2.B: Pilot Investments for Basin Climate Change Resilience and flood management				**3,052,420**	**3,052,420**												
22	**2.B.1**	**Works/ infrastructure and equipment to pilot climate change resilience approaches and designs**															
23	**2.B.1.2**	**Republic of Serbia - pilot investments**			**1,015,615**												
24	2.B.1.2.1	Conceptual design for flood protection of the Mačva plain, section Loznica- Badovinci	**CS**		200,000	CQ	1	Prior	Dec-16	Feb-17	Mar-17	Sep-17					
25	2.B.1.2.2	Upgrade of existing flood protection from river Lim in Šarampov in the municipality of Prijepolje	**G**		815,615	ICB	1	Prior	Dec-17	Feb-18	Apr-18	Oct-18					
26	**2.B.1.3**	**Montenegro - pilot investments**			**776,805**												
27	2.B.1.3.1	Assessment of climate change impacts on groundwater in Lim, Piva and Čehotina river basins and impacts on floods and drought in Lim River basin and their prevention	**CS**		776,805	QCBS	1	Prior	Nov-16	Mar-17	Jun-17	Jul-19					
28	**2.B.1.4**	**BiH / Republic of Srpska - pilot investements**			**925,000**												
29	2.B.1.4.1	River training of degraded banks of the Drina riverbed and its tributaries in urban city areas															
30	2.B.1.4.1.1	Preparation of feasibility study with priority list	**CS**		40,000	CQ	1	Prior	Dec-16	Jan-17	Feb-07	Aug-17					
31	2.B.1.4.1.2	Preparation of geodetic, engineering-geological and geomechanical bases in 5 municipalities including technical documentation/main projects	**CS**		140,000	CQ	1	Post	Dec-16	Jan-17	Feb-07	Apr-17					
32	2.B.1.4.1.3	River training of riverbeds of watercourses Zidinski Potok and Surduk - Novo Gorazde	**W**		160,000	NCB	1	Prior	Nov-16	Dec-16	Feb-17	Aug-17					
33	2.B.1.4.1.4	Recovery of landslide at 14 localities in Bratunac municipality	**W**		210,000	NCB	1	Post	Nov-16	Dec-16	Feb-17	Aug-17					
34	2.B.1.4.2	Protection against high waters and the arrangement of the lovnica river riverbed in the area of monastery complex Lovnica	**W**		160,000	NCB	1	Post	Nov-16	Dec-16	Feb-17	Aug-17					
35	2.B.1.4.3	Preparation of feasibility study for identification of leachate at the area of the City of Bijeljina and upgrade of leachate treatment system at Regional sanitary landfill „Brijesnica“	**W**														
36	2.B.1.4.3.1	Preparation of feasibility study	**CS**		70,000	CQ	1	Post	Dec-16	Jan-17	Feb-17	Apr-17					
37	2.B.1.4.3.2	Upgrade of leachate treatment system at Regional sanitary landfill „Brijesnica“	**W**		145,000	NCB	1	Post	Apr-17	May-17	Jun-17	Dec-17					
38	**2.B.1.5**	**BiH / Federation BiH - pilot investements**			**335,000**												
39	2.B.1.5.1	Feasibility study and preliminary design for waste water collector and treatment plant for Bosansko-Podrinjski Kanton	**CS**		335,000	QCBS	1	Prior	Nov-16	Apr-17	Jun-17	Jun-18					
Component 3: Project management, Monitoring and Evaluation				**500,000**	**500,000**												
40	3.1	PMT costs (in BiH together with FBiH costs)	**OC**		220,000	SOE	multiple	NA	during the life of the project - till **2020**								
41	3.2	APCU costs (in BiH/Republika Srpska)	**OC**		80,000	SOE	multiple	NA	during the life of the project - till **2020**								
42	3.3	TSU costs (in MNE)	**OC**		80,000	SOE	multiple	NA	during the life of the project - till **2020**								
43	3.4	PIU costs (in Republic of SERBIA)	**OC**		120,000	SOE	multiple	NA	during the life of the project - till **2020**								
		TOTAL PROJECT COSTS		**8,732,420**	**8,732,420**												

*** DC - based on justification to be reviewed**

Annex 4: Implementation Support Plan

BOSNIA AND HERZEGOVINA
MOMTENEGRO
SERBIA

THE WEST BALKANS DRINA RIVER BASIN MANAGEMENT (WBDRBM) PROJECT

Strategy and Approach for Implementation Support

1. The Implementation Support Plan (ISP) describes how the World Bank will assist the three participating countries in achieving the PDO of the project. In particular, the ISP puts emphasis on accomplishing the following objectives: (i) provide necessary technical advice to the client and bring international experiences and good practices to ensure that the project meets the required technical standards; (ii) ensure that the Implementing agencies' measures meet the standards approved by the World Bank in terms of construction supervision; and, (iii) ensure that the required fiduciary, social, and environmental safeguards are put in place and implemented per the Financing Agreement and other project documents.

Implementation Support Plan

2. **Technical Implementation Support.** During the implementation phase, the task team will continue to engage adequate expertise to ensure the technical quality of outputs. Specifically, a water resources specialist, a hydrologist and other technical specialist will be mobilized if and as required to support the implementing agencies with the implementation of the project. For the infrastructure implemented through the pilots and small grants component, adequate O&M strategies by the recipient participating municipalities/communities will be discussed and agreed. Technical implementation missions will be implemented two times a year during project implementation. The technical specialists will carry out site visits where works are ongoing or where service has recently commenced.

3. **Procurement Supervision and Ex-post Review.** Routine procurement reviews and supervision will be provided by the procurement specialist on the task team. In addition, two supervision missions are expected to take place per year during which ex-post reviews will be conducted for the contracts that are not subject to Bank prior review on a sample basis (20 percent in terms of number of contracts). One ex-post review report will be prepared per fiscal year, including findings of physical inspections for not less than 10 percent of the contracts awarded during the review period.

4. **Financial Management Implementation Support**. During project implementation, the project team will supervise the project's financial management arrangements in the following ways: (i) review the project's quarterly IFRs as well as the project's annual financial statements, the auditor's management letters, and remedial actions recommended in the auditor's management letters, and (ii) during the task team's on-site missions, review the following key areas: project accounting and internal control systems; budgeting and financial planning arrangements; disbursement arrangements and financial flows, including counterpart funds, as applicable; and any incidences of corrupt practices involving project resources.

5. **Environmental and Social Safeguards Implementation Support**. A Bank Environmental Specialist will review the implementation of the project's EMPs and provide guidance to the implementing agencies' environmental specialist(s) to ensure compliance with the Bank's environmental safety guidelines. Similarly, a bank Social Specialist will review the

implementation of the project's RAPs (if any) and provide guidance to ensure compliance with the Bank's social safeguards guidelines.

6. **Public Awareness.** The task team will also review citizen engagement under the project, including the commitment to gender representation, and provide support regarding the implementation of the grievance mechanism in place.

Table 1: Main focus in terms of support to Implementation:

Time	***Focus***	***Skills Needed***	***Resource Estimate***	***Partner Role***
First twelve months	- Design of activities Procurement of works identified and designed during project preparation - Establish robust supervision systems - Prepare institutional strengthening activities	Entire team with particular focus on planning inputs	**USD 100,000 annually**	Entire team with particular focus on IWRM, hydrology planning inputs
12-48 months	- Construction phase for all activities continues - Drina Task Force - Institution strengthening to participating agencies - Public awareness	- Construction and implementation phase for all activities - Institution strengthening	USD 100,000 annually	Entire team with focus on IWRM, hydrology, modelling, management and planning inputs
Other				

Table 2: Skills mix required for the duration of project implementation:

Skills Needed	***Number of Staff Weeks***	***Number of Trips***	***Comments***
Task Team leaders	20	8	
Operations officers	24	8	Field-based staff
IWRM specialist/hydrologists	12	8	Mixed: field and non-field based staff
Environmental specialist	6	4	Field-based staff
Social specialist	6	4	Mixed: HQ and field-based staff
M&E specialist	2	2	At MTR and project end
FM specialist	4	4	Field-based staff
Procurement specialist	8	8	Field-based staff

7. **Partners:** the description of the institutional set-up in Annex 3 lists and describes all the organization at the national and entity level which will be involved in the project. In addition, project activities will be coordinated with EU, the International Sava River Basin Commission (ISRBC), in parallel with other ongoing activities in the Sava and Drina Basins, and with the International Commission for the Protection of the Danube River (ICPDR).

Annex 5: Project Costs

COUNTRY: BOSNIA AND HERZEGOVINA
MONTENEGRO
SERBIA

THE WEST BALKANS DRINA RIVER BASIN MANAGEMENT (WBDRBM) PROJECT

1. The Project cost estimation entails all costs analytically broken down by components, sub-components and activities. Unit cost estimates for works and goods have been derived from market research and similar activities and procurements recently completed. The costs of services are weighted on analogues estimating based on recent contracts and similar services in riparian countries and wider Western Balkan region. Project cost estimation includes two types of contingencies, physical and price contingencies. Physical contingencies cover relative uncertainty when purchasing of goods is in place, particularly purchase of equipment for HMSs, while price contingencies address price variation and economic inflation that could occur during implementation period. Price contingencies, for expected price variations, were applied to the local costs at 0percent until project start, up to 1.2percent at the end of the implementation period.

2. Project financing is ensured through the grant in total amount of US$8,74 million provided by the GEF and the SCCF, equally. This grant will finance three main project components, as follows: (i) multi-state cooperation on international Drina management (34percent of total grant); (ii) pilot investments for integrated basin management and climate change resilience (60percent of total grant), and (iii) project management, monitoring and evaluation (6percent of total amount). The project will invest US$ 4,708,510 in procurement of services, US$ 2,739,405 in procurement of goods, and U$S 1,261,805 in works.

3. In accordance with criteria mutually agreed between riparian countries, out of the total grant US$ 3.155 million will be allocated to BH, US$ 2.721 million to MNE and US$ 2.635 million to SRB. The Project has a potential to attract additional US$ 2,0 million through contribution from DRB riparian countries. The project costs are structured by main components and categories as follows:

Project costs by components and categories	GEF IW and SCCF Funding
Component I	**$2,923,300**
- Land	$0
- Services (consulting services and studies)	$2,477,300
- Goods (equipment and materials)	$446,000
- Works (maintenance)	
Component II	**$5,286,420**
- Land	$0
- Services (consulting services and studies)	$1,731,210
- Goods (equipment and materials)	$2,293,405
- Works	$1,261,805
Component III	**$500,000**
- Land	$0
- Services (project administration)	$500,000
- Goods (equipment and materials)	$0
- Works	$0
Total Baseline Costs:	**$8,709,720**
Physical Contingencies:	$9,200
Price Contingencies:	$ 13,500
Total Project Costs:	**$8,732,420**

Project Cost Table

Components		Total (GEF + SCCF)	GEF IW	SCCF	Distribution per countries			Estimated contribution IN KIND[12]
					BH	MNE	SRB	
1	**Multi-state Cooperation on International Drina Management**	**$2,946,000**	**$2,500,000**	**$446,000**	**$1,114,120**	**$969,070**	**$862,500**	**$1,100,000**
1.A	Development of an agreed SAP mainstreaming transboundary IWRM and climate change adaptation in national planning	$2,696,000	$2,300,000	$396,000	$1,021,620	$889,070	$785,310	$1,000,000
(i)	Preparation of a DRB SAP	$400,000	$400,000	$0	$148,000	$128,000	$124,000	
(ii)	Hydraulic and hydrologic model for the DRB with reservoir operation optimization	$1,196,000	$800,000	$396,000	$543,030	$359,900	$293,070	
(iii)	Preparation of water resources and basin study	$850,000	$850,000	$0	$257,890	$311,270	$280,840	
(iv)	Preparation of study for analyses of the pollution of DRB DRB	$250,000	$250,000	$0	$72,700	$89,900	$87,400	
1.B	Institutional development and capacity building	$250,000	$200,000	$50,000	$92,500	$80,000	$77,500	$100,000
(i)	Support to the DTFand stakeholders all coordination DRB activities	$155,000	$105,000	$50,000	$57,350	$49,600	$48,050	
(ii)	Support to preparation of appropriate national and local policy and regulatory reforms to conform to the international DRB management	$45,000	$45,000	$0	$16,650	$14,400	$13,950	
(iii)	Participation in GEF IW:LEARN activities	$50,000	$50,000	$0	$18,500	$16,000	$15,500	
2	**Pilot Investments for Integrated DRB Management and Climate Change Resilience**	**$5,286,420**	**$1,616,210**	**$3,670,210**	**$1,961,150**	**$1,672,455**	**$1,652,815**	**$700,000**
2.A	Strengthening capacity for climate change resilience	$2,234,000	$486,210	$1,747,790	$701,150	$895,650	$637,200	$270,000
(i)	Strengthening of the DRB riparian countries HMS	$1,439,000	$0	$1,439,000	$470,000	$609,250	$359,750	
(ii)	Develop protocols to improve data compatibility among the DRB countries	$50,000	$50,000	$0	$18,500	$16,000	$15,500	
(iii)	Public Awareness Program	$100,000	$80,000	$20,000	$37,000	$32,000	$31,000	
(iv)	Small Grants Program	$575,000	$286,210	$288,790	$149,750	$216,000	$209,250	
(v)	Improvement of the flood forecasting and early warning system at regional level	$70,000	$70,000	$0	$25,900	$22,400	$21,700	
2.B	Pilot investments for basin climate change resilience and flood management	$3,052,420	$1,130,000	$1,922,420	$1,260,000	$776,805	$1,015,615	$430,000
(i)	Works/ infrastructure and equipment to pilot climate change resilience approaches and designs	$3,052,420	$1,130,000	$1,922,420	$1,260,000	$776,805	$1,015,615	
3	**Project management, Monitoring and Evaluation**	**$500,000**	**$250,000**	**$250,000**	**$300,000**	**$80,000**	**$120,000**	**$200,000**
	Total	**$8,732,420**	**$4,366,210**	**$4,366,210**	**$3,375,270**	**$2,721,525**	**$2,635,625**	**$2,000,000**

[12] Outside in financing agreement

Components			Distribution among MOFTER and BH Entities		
		BH TOTAL	MOFTER	RS	FBIH
1	**Multi-state Cooperation on International Drina Management**	**$1.114.120**	**$0**	**$557.060**	**$557.060**
1.A	Development of an agreed SAP mainstreaming transboundary IWRM and climate change adaptation in national planning	$1.021.620		$510.810	$510.810
(i)	Preparation of the DRB Strategic Action Program (SAP)	$148.000		$74.000	$74.000
(ii)	Hydraulic and Hydrologic Model for the DRB with Reservoir Operation Optimization	$543.030		$271.515	$271.515
(iii)	Preparation of Water Resources and Basin Study	$257.890		$128.945	$128.945
(iv)	Preparation of Study for analyses of the pollution of DRB	$72.700		$36.350	$36.350
1.B	Institutional development and capacity building	$92.500		$46.250	$46.250
(i)	Support to the Drina Task Force and stakeholders on coordination of DRB activities	$57.350		$28.675	$28.675
(iii)	Support to preparation of appropriate national and local policy and regulatory reforms to confirm to the international DRB management	$16.650		$8.325	$8.325
(iv)	Participation in GEF IW: LEARN activities	$18.500		$9.250	$9.250
2	**Pilot Investments for Integrated DRB Management and Climate Change Resilience**	**$1.961.150**	**$0**	**$1.423.825**	**$537.325**
2.A	Strengthening capacity for climate change resilience	$701.150		$498.825	$202.325
(i)	Strengthening of the DRB riparian countries HMS	$470.000		$333.250	$136.750
(ii)	Develop protocols to improve data compatibility among the DRB countries	$18.500		$9.250	$9.250
(iii)	Public Awareness Program	$37.000		$18.500	$18.500
(iv)	Small Grants Program	$149.750		$124.875	$24.875
(v)	Improvement of the flood forecasting and early warning system at regional level	$25.900		$12.950	$12.950
2.B	Pilot investments for basin climate change resilience and flood management	$1.260.000		$925.000	$335.000
(i)	Works/ infrastructure and equipment to pilot climate change resilience approaches and designs	$1.260.000		$925.000	$335.000
3	**Project management, Monitoring and Evaluation**	**$300.000**	**$220,000**	**$80.000**	**$0**
	Total	**$3.375.270**	**$220,000**	**$2.060.885**	**$1.094.385**

Annex 6: Economic Analysis

COUNTRY: BOSNIA AND HERZEGOVINA
MONTENEGRO
SERBIA

THE WEST BALKANS DRINA RIVER BASIN MANAGEMENT (WBDRBM) PROJECT

1. Significant multi-type economic and environmental benefits are expected to result from the Project's investments in multi-state cooperation in international Drina management, and strengthening capacities of the DRB riparian countries for climate change resilience.

2. ***Multi-state cooperation in international Drina management.*** The most important benefits that the entire DRB region will experience from this Project are those that will occur once the Drina Basin cross-border cooperation has been established and in function. This project component is of crucial importance for sustainable management, efficient use, allocation, and proper protection of shared water resources in the DRB.

3. In order to justify planned multi-state cooperative efforts in the DRB the potential benefits should be weighed against the costs of establishing and maintaining multi-state DRB arrangements. The quantification of such benefits in the context of trans-boundary waters is less common, and it is even harder to find studies that specifically quantify the benefits of trans-boundary cooperation. Although extremely difficult to quantify in monetary terms it is still important to demonstrate numerous important benefits that this Project component is expected to yield. Therefore, a qualitative analysis of this Project intervention has been undertaken.

4. There is an extensive body of literature supporting the notion that multi-state cooperation over shared rivers promises substantial benefits. The discussion on cooperative management of internationally shared rivers has recently shifted its focus from sharing water quantity (allocation) to "benefit sharing". This concept maintains that the focus on sharing the benefits from water rather than the quantity of water has potential to shift the 'zero-sum game' of water sharing to a 'positive-sum game' of benefit sharing.

5. Drina river is extraordinary, multi-dimensional system. It is a balanced ecological system, with critical life- and landscape- sustaining functions and continuous upsetting of this environmental balance by unmanaged development could result in major economic and social impacts. Recently prepared DRB TDA concluded that the existing cooperation between the DRB countries is rather weak and limited to the incidental situations (e.g. early warning for floods). Classical SWOT analysis undertaken for the needs of this Study has identified hydropower, potable water use and recreation, irrigation and industry, fishery and nature-based tourism, and sediment exploitation as the main regions' potential economic strengths. However, this analysis indicated that cooperation between DRB governments, and cooperation and coordination between (inter)national water institutions in DRB, although being of the highest importance for the development of the region, present major weaknesses of the existing system.

6. Planned cross-border DRB management seeks to promote integrated, system-wide perspective, where the full range of water use opportunities and the various inter-relationships of individual water uses can be considered. The multi-state cooperation in DRB will enable better management of this shared ecosystem, promoting environmental cooperation while providing *benefits to the river* (region ecosystem improvement and protection).

7. Drina river and its tributaries remains the central feature of the economic environment within the Basin. The Project intends to promote and facilitate efficient and cooperative management in the DRB which in turn will yield direct economic *benefits from the river* – improved regional cooperation and coordination in hydropower and agricultural production, nature-based tourism and recreation (sport and adventure, eco-tourism, fishery tourism, spa tourism), transport, fishery (cage trout breeding), and sediment exploitation.

8. DRB have many competing priorities for water management, such as a source of water supply for drinking water and irrigation, a source of hydropower development, a source of high tourism potential, etc. Utilization of hydropower potential is the top priority in the riparian countries, where high percentage of unused hydropower potential attracts investors. In the previous period numerous studies and projects of hydropower facilities were made for the main river and its tributaries. Based on the obtained results, there is a potential in the catchment area for constructing new HPP facilities with a total installed capacity of approximately 2,500MW and a possible average annual production larger than 7,500GWh. All riparian countries located within the Basin are therefore considering the construction of new HPP facilities as part of their spatial development plans and/or valid water management plans. Currently, the energy sector in the DRB countries is distorted by the strong influence of interest groups that exert pressure on national decision-makers to plan – among others – future hydropower development in the DRB in line with their interest. One of the very important economic revenue sources in DRB is certainly the sediment exploitation that on the other hand causes major dispute between the riparian countries (e.g. the determination of the border between SRB and BH). Inter-state cooperation in the DRB has a potential to ease tensions over conflicting interests, and provide gains in the form of savings that can be achieved, or the costs of non-cooperation or dispute that can be averted.

9. It is expected that multi-cooperation in the management and development of the DRB contributes also to political processes and institutional capacities that themselves open the door to other collective actions, enabling cross-border cooperation beyond the river. Improved river basin management can increase the productivity of a river system, which may then generate additional opportunities in other sectors through forward linkages in the economy. Increasing the benefits from the river and *decreasing the costs arising because of the river* enable broader economic growth and regional integration that can generate benefits even in apparently unrelated sectors (e.g. labor flows, trade, opportunities for construction of shared infrastructure).

10. Significant benefits are expected to result from the development of the hydraulic and hydrological model for the DRB with reservoir operation optimization, because it will introduce the framework of harmonization and synchronization of the existing HPP systems. This is particularly important for scenarios of extreme hydrological conditions including floods, accidents, or cases when there is a need to coordinate and harmonize water management activities of different water users.

11. This Project component will also increase the riparian countries' capacities to jointly plan and select investments more efficiently and in accordance with the IWRM principles, reducing the economic and social benefits foregone as a result of the delayed preparation or weak project design. Furthermore, the Project will strengthen capacities of water agencies in riparian countries through procurement of IT equipment, software and training.

12. It can be reasonably assumed that the sum of all expected benefits is extremely high and by far exceeds the sum of all expected costs of this Project investment.

13. ***Fiscal sustainability of institutions responsible for DRB cross-border cooperation***. The Project will provide funds to support the functioning of institutions responsible for the cross-border DRB management during the Project life-time while the fiscal sustainability of these institutions in the post-project period will be ensured considering that the associated costs for government staff (travel and accommodation) in all three riparian countries will be adequately compensated through their state budgets.

14. ***Strengthening of HMS*.** Major multi-type benefits are expected to result from the Project's investments in strengthening of national HMSs in the DRB riparian countries. In the short and medium run these benefits will materialize in optimization of operational costs (optimization of travel costs, station distribution and data management), while in the long-run they will materialize in reduction in damage and losses related to hydro-meteorological hazards and increase in benefits in productive sectors. However, some of the arguably most important benefits (e.g. feeling of security and preserving life) and arguably most significant costs (e.g. the emotional burden of selling and moving from one's home to be out of a high risk zone) are not readily quantifiable.

15. *Weather and climate hazards*. The DRB is exposed to a range of natural hazards, including heavy precipitation causing floods and landslides, droughts and forest fires, earthquakes, prolonged cold and heat waves that might affect each country's economic standing and key sectors (energy. agriculture, transport, water management, tourism). As revealed in the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, it is expected that, due to climate change, the frequency and severity of such hazards will increase in the future. This would lead, together with changes in land-use patterns and increased human settlements in areas prone to disasters (e.g. the area of Semberija in the north-west of DRB), to increased risks in the coming years. Natural disasters in the DRB are often of cross-border nature due to the size of the countries and the geography of the region. Several times in recent years these disasters had devastating socio-economic consequences. The most important weather-dependent economic sectors in the DRB that can benefit from better HMS in terms of improving productivity and efficiency are energy production, agriculture, road traffic and construction.

16. In relation to energy production, weather-related services are important due to the hydro-power production on Drina and its untapped potential in this area. "Elektroprivreda Crne Gore AD" stressed the need to get good information about meteorological-forecasts and hydrological data in order to plan electricity consumption and production as well as control the production facilities. This Company also expressed interest to get tailor-made weather services especially concerning: communication on expected extraordinary hydrological conditions for the next 1-3 days, flood warnings, hydrological forecasts, on-line hydrological data, and season weather forecasts. Agriculture is one of the most weather prone sectors in the DRB (accounted for 8.5percent of the GDP in BH, 10.2percent of GDP in MNE, and 9.7percent of GDP in SRB). Land use, crop selection, and farming practices are all directly dependent on the prevailing local climate.

17. *Assessment of economic benefits.* Methodologies to assess the economic benefits of investments in HMS are still evolving. The broad range of estimates currently in the literature suggest that these investments can be extremely beneficial in terms of averting losses associated with climate hazards and enhancing the productivity of climate-dependent sectors such as hydropower, agriculture, and transport. Global studies have found high returns to investment in HMS (Hallegatte 2012). According to the WMO, the average cost-benefit ratio for investments in the development and strengthening of HMS, in terms of reduced economic losses, is about 1:7.

18. The UN study on "Strengthening the HMS in SEE" suggests that the ratio of investments to benefits in HMS for the DRB countries could be higher than the general 1:7 value calculated by WMO; in the long run (1-10 years) it could run from around 1:6 to 1:20. The approach of the Study was to estimate the value of reduced losses as well as the value of increased production. However, due to the lack of data, only a subset of the weather-dependent sectors has been studied, and only direct costs were calculated. The Study suggested that improved HMS could significantly benefit the national economic development in all of the SEE countries. In calculating the cost-benefit ratio the Study estimated that the actual savings, or economic benefits, from improved HMS could gradually ramp up over five years to the point where they would, in year five, provide approximately 75percent of potential economic benefits. This assumes a very conservative learning curve for the first five years. During the following five years, an 80 percent level of potential annual economic benefits is assumed. The calculated ratio varies from country to country. In some cases the ratio is lower (e.g. MNE); due to the small size of the national economy, or to the lack of beneficiary information from different sectors.

19. Currently, there are no reliable systematic data on impacts of weather and climate on different socio-economic sectors in the DRB countries. It is also very difficult to find adequate data to produce reliable figures for the value of current HMS and the benefits yielded from improved observations and services. In order to analyze potential benefit-cost ratio that can be expected from the Projects' investment in HMSs the results of the UN Study "Strengthening the HMS in SEE" were used. The main assumptions applied in this analysis are:

- potential economic benefits of improved HMS in a country are distributed evenly throughout that country; accordingly, a criterion of territory surface was applied to adjust the estimated cumulative benefits in the first 10 years from the Study from the national level to the DRB level for all riparian countries;
- the calculated DRB level cumulative economic benefits were than adjusted considering the planned investment in HMSs strengthening through this Project ;
- average annual maintenance costs stemming from this investment is estimated at 0.5percent of the initial investment.

20. The applied conservative estimate calculates benefit-cost ratio of strengthening the national HMSs in the first 10 years under this Project to range between 4.0 - 8.6 in BH, 1.2 - 4.6 in MNE, and 6.5 – 9.5 in SRB.

21. It should be noted that this analysis did not take into account other potential benefits such as reduced tourism losses, avoided displacement of population, reduced injures and avoided loss of life, etc. since they are intangible and extremely difficult to quantify. Therefore, performed estimates of benefits are conservative, and it can be reasonably assumed that the actual economic benefits of planned intervention in HMS will be larger.

22. ***Fiscal impact.*** The annual budgets available to the national HMSs in DRB, are in general low, and strongly oriented towards personnel costs. They typically do not support modernization plans but are sufficient enough to cover the regular operational and maintenance costs. Fiscal impact of the investment in strengthening of national HMSs will be relatively low considering that the assumed annual maintenance costs will range from 0.02percent of HMS annual budgets in SRB and FBH, to 0.21percent in RS, and 0.23percent in MNE.

23. *Pilot Projects*. Key benefits that will be enjoyed locally are related to improved water quality and reliability, and better informed local planning and decision making related to flood

protection and reduction of negative climate change impacts. For most of planned pilot projects economic analysis is not applicable (preparation of studies, technical documentation, exploratory works) or is not feasible at this stage of project preparation.

24. *Financial Analysis.* Financial analysis is not applicable to this Project because it is not a revenue generating project.

Annex 7: Environmental Assessment

BOSNIA AND HERZEGOVINA
MONTENEGRO
SERBIA

THE WEST BALKANS DRINA RIVER BASIN MANAGEMENT (WBDRBM) PROJECT

Environment Aspects

1. The Technical Assistance for the Preparation of the GEF-SCCF WBDRBM Project is classified as the Category 'B' pursuant to the Environmental Assessment OP 4.01. Taking into consideration project characteristic and the geographical scope, it was necessary to carry out the environmental assessment and prepare Environmental and Social Framework document for the overall project. The WBDRBM project activities envisions cross-border/trilateral-joint projects that covers all DRB countries, as well as pilot investments which will be carried out on national level in each country, which finally defined scope of activities might trigger national regulations and requirements in the sphere of environmental protection, along with WB requirements.

2. Analysis of the necessity for environmental assessment of projects defined within WBDRBM implementation components - Multi-state Cooperation on International Drina Management, Pilot investments for Integrated Basin Management and Climate Change Resilience and Project management, evaluation and monitoring, accompanied with subprojects within these main components, was based on the positive regulations in the field of environmental protection and impact assessments in DRB countries. Taking into account that the WBDRBM Project did not undergo the full environmental impact assessment prior to ESMF preparation, the Environmental Assessment is given on a general level and based on the level of sub-project information known at the time.

3. Since the envisioned WBDRBM components' sub-projects contain actions which involve: fostering and strengthening government and stakeholder cooperation in DRB countries in the sphere of water management, hydrological data gathering, exchange and monitoring all aiming at understanding the climate change impact on DRB, strengthening hydro-meteorological services in the basin with equipment, together with some rehabilitation, reconstruction and replacement during the further realization of the project, which will result in better preparedness for potential negative occurrences (floods, droughts, etc.) and thus sustaining and preserving livelihoods on one side and environment and resources on the other, the overall project impact on environment and water management will have significant positive impact, while minor negative impacts will be a consequence of human presence and nature of construction works at a location, which are limited to the location of works or its surrounding vicinity.

4. Impacts on environment which will occur during the project implementation relates to Component 1: **Multi-state Cooperation on International Drina Management and Component 2: Pilot investments for Integrated Basin Management and Climate Change Resilience, with sub components 2A-** *Strengthening capacity for climate change resilience* **and 2B -** *Pilot Investments for Basin Climate Change Resilience and flood management* as direct consequence of human presence and assembly and construction/reconstruction works at locations, such as drilling works for setting piezometers for monitoring of underground water at locations on rivers Lim, Piva and Ćehotina in MNE, or putting embankments and gabions as flood prevention

measures at critical locations on river Lim in MNE or in municipality Prijepolje in SRB.... However, a significant impact on environment and local population is not expected, as well as not the breach of nationally allowed concentration of pollutants into the air, soil or water as the works will be carried with best praxes and in accordance with legislation requirements and defined mitigation measures to be prescribed where needed by the EMP/EIA to be developed for each sub-project prior to its implementation.

5. The Small grant scheme under the Component 2A - *Strengthening capacity for climate change resilience* will support community-based demonstration projects in all DRB countries that would strengthen adaptation to climate change, reduce pollution, preserve natural values of sensitive habitats, foster ecosystem services and improvement of water quality, or similar, and would be administered according to an Operations Manual, which would include guidelines for environmental analysis and monitoring of small grants. Identified small grants project, within the implementation of the WBDRBM will have modest financial support (10-20 000 US$), thus would not include extensive activities and the impact would, if at all, minor. However, the positive aspects of all various community based stakeholder engagement and use of NGO network, as well as schools or similar will significantly contribute to awareness rising and promotion of the value and need for integrated water resource management and its adaptation and or mitigation of climate change impacts.

Environmental Assessment

6. The WBDRBM Project did not undergo the full environmental impact assessment prior to ESMF preparation, which resulted in initial Environmental Assessment on a general level and based on the level of sub-project information known at the time.

7. The environmental assessment performed identified and analysed potential environmental impacts of envisioned projects' construction and rehabilitation works. For the level of project information and identified impacts, the EMP was prepared to address mitigation measures and monitoring activities of potentially negative environmental impact of the known investments, as part of the ESMF, to guide further assessment of activities within WBDRBM project scope, including the Small grant scheme. At the moment of Assessment and available project descriptions none of the sub-projects of the WBDRBM immediately requires the EIA, by national legislation of DRB countries. However, it is suggested and identified that for potentially adverse impacts of construction or reconstruction works, the opinion on the need to perform an EIA will be sought from relevant institutions on national or local level (municipalities), depending on the scope and size of sub-projects' work.

8. Civil and research works under the above stated WVDRBM components and sub-components, including drilling or flood protection measures might result in some adverse environmental impacts, unless appropriate design, construction, and operational practices are followed. Potential environmental impacts are expected to be local and occur during implementation/construction only. Impacts on environment which will occur during the project implementation are a direct consequence of human presence and assembly and construction/reconstruction works at location. Pollutions that occur in the phase of reconstruction, rehabilitation and/or repair are temporary in their scope and limited in intensity although they can cause consequences if breakdowns occur.

9. The implementation of the EMP would minimize and prevent identified negative impacts, through set of specific environmental mitigation and monitoring requirements to be taken by the contractor and/or responsible parties (for example, municipalities, Water association, etc.) during

implementation and operation. This set of requirements, intended to eliminate adverse environmental and social impacts, should also be included in the subproject contractors' ToRs.

10. In order to ensure the sustainability of environmental protection through mitigation measures set in the EMP, monitoring is prescribed ensuring the compliance with national legislation standards on pollution ceilings and relevant permits (construction permit, wastewater discharges, air quality, appropriate assessment, water permit, etc). The EMP's mitigation measures encompass actions that will adhere hazards, which could impact health and safety of the construction workers, and the public; measures related to soil and water pollution from oil and fuel, noise, air quality (dust), excavation of materials and disposal of surplus soil/earth and other materials; degradation of historical and cultural sites, etc. As identified, the attention shall be paid to chance findings of objects of archaeological or cultural value, during construction or research works. As stated in the Law on Cultural Heritage, works will be suspended immediately if cultural objects are found, and the contractor will inform the relevant authorities of these findings.

11. At this moment none of the sub-projects of the WBDRBM immediately request the EIA, by national legislation of DRB countries.

Safeguard Policies

12. At this stage of information the WBDRBM sub-projects trigger several WB safeguard policies, mainly on Environmental Assessment (OP 4.01), Habitats (OP 4.04), Cultural and Historic properties (OP 4.11), Forest (OP 4.36), Involuntary Resettlement (OP 4.12) and Project International Waterways (OP 7.50), as DRB is the border river between BH and SRB, and part of Sava River Basin and therefore triggers this safeguard measure. The studies which by their scope of work and analyses (envisioned or presumed) trigger safeguard measures, is a result of actions that will take place locally and have minor and localised impact on environment or water resources, and the works might be close or in the vicinity of the cultural and historic property.

Safeguard Policies Triggered by the Project	Yes	No
Environmental Assessment (OP/BP/GP 4.01)	√	
Natural Habitats (OP/BP 4.04)	√	
Pest Management (OP 4.09)		√
Cultural Property (OP 4.11)	√	
Involuntary Resettlement (OP/BP 4.12)	√	
Indigenous Peoples (OD 4.20, being revised as OP 4.10)		√
Forests (OP/BP 4.36)	√	
Safety of Dams (OP/BP 4.37)		√
Projects in Disputed Areas (OP/BP/GP 7.60)[13]		√
Projects on International Waterways (OP/BP/GP 7.50)	√	

Table 2: Safeguard Policies

[13] By supporting the proposed project, the Bank does not intend to prejudice the final determination of the parties' claims on the disputed areas.

13. ***Natural Habitats.*** The OB/BP 4.04 is triggered since planned activities will finance studies encompassing research works and analyses which location is not known at the level of current projects' scope. However, taking account that DRB includes several national parks, nature reserves and areas under UNESCO protection, the existence of these areas should be taken into account while project desk research and decision making in order to avoid, minimize and/or mitigate potentially negative impacts of the activity. One of the instruments in that respect is the Appropriate Assessment or Permit to work in protected areas, if the project/activity shall take place, as identified in the Environmental Assessment. At the moment of this analysis none of the sub-projects envisioned activities in protected areas, or valuable natural habitats.

14. ***Forest.*** The OB/BP 4.36 has been triggered since planned activities will finance studies encompassing research works and analyses which location is not known at the level of current projects' scope. Taking into account that DRB is bounded and abundant in this resource, this notion should be taken into account while project desk research and decision making in order to avoid, minimize and/or mitigate potentially negative impacts of the activity.

15. ***Cultural Property*** OB/BP 4.11**.** The sub-projects scope of work does not directly affect the cultural and historic properties. If the activities within the projects:*River training of degraded banks of Drina riverbed and its tributaries in urban city areas or Assessment of climate change impacts on groundwater in Lim, Piva and Cehotina river basins and impacts on floods and drought in Lim river basin and their prevention* (drilling for the purpose of setting the piezometers for underground water analyses), by chance encounter such objects or prescribed actions' location are to be near culturally sensitive areas and/or cultural sites, the EMP for the respective site should identify procedures in accordance with the national regulations in that respect. The EMP notes that archaeological chance-finds should be covered by a chance-finds procedures clause incorporated in the contractors' agreements.

16. ***Project on International Waterways,*** OP 7.50**.** The proposed project will provide a number of investments that will target improved water resource management in the DRB which is part of the wider Sava River Basin, therefore triggering the WB OP 7.50 – Projects on International Waterways. In addition, Drina river being a border river (part of the border between BH and SRB) also trigger this WB OP. This OP requires notification procedure, which involves sharing all relevant project related information to riparian countries. The project details attached to the notification letter usually relies on EIA and/or environmental assessment, to make determination that the Bank financed Project will not cause damage to riparian countries.

17. ***Involuntary Resettlement,*** OP 4.12**.** At this point of proposed sub-project activities no land acquisition or relocation of people is envisioned. However, the potential impacts and sensitivity of certain envisioned actions triggers OP 4.12 on Involuntary Resettlement is triggered. Involuntary resettlement policy includes safeguards to address and mitigate social risks that result from involuntary resettlement and land acquisition caused by the Bank-assisted investment projects. When the projects/sub-projects are identified and proposed for financing both prior to and during the project implementation period, screening for potential land acquisition/resettlement will be conducted and the necessary mitigation and management measures developed.

Annex 8: Social Assessment

BOSNIA AND HERZEGOVINA
MONTENEGRO
SERBIA

THE WEST BALKANS DRINA RIVER BASIN MANAGEMENT (WBDRBM) PROJECT

Social Assessment

1. DRB flows through three countries (BH, MNE and SRB) which survived the internal structural and political changes during the past two decades. According to economic criteria, they belong to upper middle-income countries, whose slow economic development was further affected by the global economic crisis and the floods in 2014.

2. In the municipalities of MNE, local economy is mostly based on the wood processing industry (Pljevlja), agriculture (Bijelo Polje), mining and stone industry. Fisheries sector in DRB municipalities is organized through small fish farms with 5-20 t/year production. The exceptions include two large fish farms run by private companies (40-130 t/year). Exploitation of sand and gravel is a significant source of income for small private companies. Durmitor National Park significantly contributes to tourism development, as well as the attractive landscapes alongside small mountain rivers.

3. In SRB, the wood processing industry is one of the most important industries in DRB area, especially for companies that produce furniture and for sawmills (mostly privately owned). Agricultural production in SRB is mainly focused on small farms and family farms with crop and livestock production for their own needs. Fish sector is developed in the municipality of Mali Zvornik, including mainly carp and trout. The significance of the Drina River is reflected in its hydropower potential, which is only partially used for "Bajina Bašta" Hydro Power Plant. Tourism is developed in Durmitor NP and the Tara River through promotion of eco-tourism, sport and adventure and sport fishing.

4. In the northern part of the DRB in BH, local economy is based on trade, manufacturing and agriculture. On the other hand, local economy in the southern municipalities is based on the electrical energy industry (Ugljevik), mining (Milići), energy industry, forestry and agricultural production within the small farms. Important and safe source of income is employment in public administrations and private companies. The development of tourism is partially related to the Drina River, although as a source of income that part is small, except for the municipality of Foča whose additional sources of income are realized within the Sutjeska NP. The only significant fish farm is on the river Krupica, near Foča(RS),where there is about 25-35 kg/ha of fish estimated to be available. Gravel extraction from Drina riverbed is an economic activity regulated by the government, but data on the quantities of excavated sediments is unavailable, although this type of activity is a significant source of income for small private companies.

5. As for the Labor Market, it has not recovered from the economic crisis in 2008. The unemployment rate is significantly high in all three countries (BH-27.5percent, MNE-19.4percent, SRB-20.8percent), which is a clear indicator of the biggest problems for all three economies. The rate of unemployment in the DRB is 22.56percent. During the last 5 years the unemployment rate in BH has not significantly changed. The average unemployment rate in FBH during the last 5 years has been 46.356 percent and 38.35 percent in the RS. The unemployment rate in SRB is

20.8percent, whereas in MNE it is 37.7percent.

6. RS DRB is characterized by a higher share of urban population in the municipality of Foča (62percent), Pale (62percent), Han Pijesak (53percent) and in FBH - municipality Goražde (57percent). In MNE DRB, there are municipalities at the lowest level of urbanization in comparison to the rest of the state, namely those are municipalities Andrijevica (18percent) and Šavnik (19percent). In the part of the basin belonging to SRB, approximately 41percent of the population lives in urban areas and 58percent in rural areas. Užice has the highest level of urbanization (around 77percent).

7. For BH territory, gender and age structure data is available only at the national level. More women than men live in BH, 51.3percent compared to 48.7percent. The highest percentage of the population includes the age group of 45-59 years. The age structure in DRB in MNE is characterized by a slightly higher proportion of the male population (50.2percent) compared to women (49.8percent). SRB is characterized by higher proportion of female population, namely 50.5percent female and 49.5percent male population.

8. In DRB, there are 10 major reservoirs (and many other smaller ones) and 9 associated hydropower plants. The water potential of the Drina River and its tributaries are mainly used for energy production. The total technically used hydro-potential is 1,838.6 MW, with estimated annual production in 2014 of 5,200 GWh. One of the most important economic revenues in SRB and BH is certainly the sediment exploitation which, on the other hand, causes the major dispute between the riparian countries (e.g. the determination of the border between SRB and BH).

9. A large part of the population and land mass suffered due to the negative impacts of floods, especially in BH. On the other hand, at the end of May 2014, about 90,000 people were evacuated and about 1 million, or one quarter of the total population, were directly affected by the floods. The year 2014 was a setback for the three countries, especially in economic terms, and the greatest damage was caused to economic sectors, energy, mining, and agriculture. Moreover, significant damage was inflicted on the transport infrastructure (roads, bridges and railways). The assessment of flood damage in BH in 2014 amounts to about 15percent of GDP, damage (9.3percent of GDP) and losses (5.6percent), in SRB about 4.7percent of GDP, 2.7 percent of GDP referring todamage and 2percent of GDP to losses in 2014, respectively.

Social impacts

10. National and regional planning for water development will be improved by the Project, so countries as well as responsible ministries will be able to enhance their decision making in integrated DRB management. Moreover, a multi-sectoral planning approach involving all government agencies, within three riparian countries, working in water development sector (water supply, agriculture and energy and environment) shall lead to optimization of natural, human and financial resources while addressing the significant increase on demand for energy, safe water and food observed in the region.

11. The project's social impact is expected to be positive as both rural and urban populations living along the Drina River will benefit from the arrangement of degraded banks as well construction of wastewater treatment. The project will have a positive impact on new business opportunities associated with these structures which will contribute to poverty reduction in the region.

12. Protection of water sources from floods will have a significantly positive impact on local population and will subsequently ensure a safe environment for the development of economy and

agriculture as the main activity for the provision of income. This is very important given that agricultural production is organized in the form of small farms, where the members of family are involved in the production. The improved management of the Drina River will positively affect the security of self-employment within households.

13. The environment and social management will benefit from this integrated approach due to increasing water infrastructure needed in the region, and hence reduced water pollution. At a regional level, significant positive social benefits are expected from integrated planning and data sharing activities which will increase trust and cooperation between countries through the shared sub-basins and awareness for sustainable management of shared water resources for the benefit of all.

14. Although people are increasingly migrating to larger urban centers, many of them rely on agriculture as part of the family farms, as an additional source of income. Providing an adequate protection for people and goods in extreme hydrological situations such as floods, droughts, torrents, riverbed erosions, etc. is one of the most important social benefits of the WBDRBM project.

15. In the DRB, there are problems related to the protection of water resources from pollution due to the discharge of waste water and floating waste. It has been observed that there are practically no facilities for treating waste water before it is released into surface water. This applies to urban and rural areas, as well as to more isolated industrial plants. The entire region as well as local population will benefit from regulated water management in the DRB through flood protection ensured under all conditions.

16. Project activities will enhance the livelihood of people who have their agricultural land in the close proximity to the river. In the short term, the project will likely generate temporary employment for the local population in rehabilitation and construction works. Although men are likely to benefit more than women from these opportunities, their family members will also benefit from the increase in household income.

17. WBDRBM project includes three components:

- Realization of the activities foreseen under the Component 1 will contribute to the multi-state cooperation on International Drina Management. Given that this component envisages development of SAP, regional hydrological study as well as a study for the analysis of floating waste in the DRB, positive impacts are expected at the regional level in strengthening coordination and management of water management issues.
- Component 2 will support pilot investments for integrated basin management per countries through strengthening of HMSs with equipment and completion of the hydro and meteorological measuring system, development of data protocols, public awareness, small grants program and enhanced flood forecasting and an early warning system. Social benefits expected from these activities are envisaged to strengthen the capacity for climate change resilience at the DRB level by providing facilities with equipment and completing the hydro- and meteorological measuring system for reliable monitoring of hydro meteorological parameters in riparian countries. This will contribute to better preparation for the flood and drought threats in the region.
- Within the sub-component 2B, there are pilot project investments defined that affect the reduction of the impact of climate change issues. These projects can be easily replicated by the countries. Their high priority is to contribute to local rural economies in the basin as well as to environmentally and socially-sound integrated development of the river

system.

18. Based on the conducted initial screening of likely land acquisition and resettlement impacts, the potential adverse social impacts have been estimated to be acceptably low to moderate, given that the subprojects within sub-component 2B will be implemented mainly on the land owned by municipalities or other public bodies. The Project is not expected to have a negative impact on the local population due to the fact that no physical displacement of occupants (legal or illegal) or restriction of access to resources or income streams is expected as the result of the Project.

For BH 4 pilot projects are planned:

- The project titled *River training of degraded banks of the Drina Riverbed and its tributaries in urban city areas* aims to decrease the floods risk and influence of climate change in urban settlements in the DRB. Social benefits will be reflected through improved safety of urban areas and city center zones, water intakes and water supply system of city water utilities. Local communities in Foča, Novo Goražde, Višegrad, and Bratunac will benefit from this project. The impact on local population can be expected from construction work on the arrangement of riverbeds of water courses around Zidinski lake and Surduk (in the length of 2 km in the municipality of Novo Goražde) and works to recover 3 landslides: Dubravica, Polom and Zelinje (the municipality of Bratunac).The minor potential adverse impact on the local population can be expected in the form of increased dust, noise and vibration at the construction site, traffic disruption due to temporary or partial closing of access roads, water or soil pollution due to accidental spilling of fuel from construction machines. These impacts are expected to be minor and short-term.
- The project titled *Protection against high waters and the arrangement of the Lovnica river riverbed in the area of monastery complex Lovnica* aims to perform a permanent stabilization of the riverbed of the Lovnica River whose total degradation of banks occurred after the disastrous floods of May 2014 on territory of the Municipality of Šekovići. This project will enhance stability of the monastery plateau and part of the monastery complex with its facilities located along the banks of Lovnica river. The main social benefit will have the sisterhood of the Monastery, tourists and the whole RS - BiH since this intervention would prevent the risk of destroying this historical and cultural good by possible floods in the future. Key positive social impacts will be based on the project results as regards of permanent stabilization of the riverbed and regulation of normal profile for appropriate capacity for high waters and erosive processes, along with the obligatory stabilization of the active landslide on the left bank. There are no obstacles for its realization regarding the property - legal issues.
- The project titled *Preparation of Feasibility study for the identification of leachate in the area of the city of Bijeljina and upgrading of leachate treatment system at the"Brijesnica" regional sanitary landfill* aims to protect the quality of surface and ground water in the upper basin of the Drina River (City of Bijeljina) from leachate pollution. The impact on the population will be noticeable through the reduction of odor that spreads from Majevica channel which flows into the Drina River. Significant positive social impact of the project is reflected in the fact that outflow of leachate into groundwater will be stopped which will have positive effect on the agricultural land and crops in the vicinity of the landfill. All of this will have a further positive impact on the

income of the population by means of the production of safe and healthy food and other agricultural crops.

- The main objective of the project titled *Feasibility study and preliminary design for waste water collector and treatment plant for Bosansko-Podrinjski Canton* is to improve the environment protection level, especially as regards the Drina River water quality from communal waste waters in Goražde, Foča FBH and Pale FBH municipalities. All inhabitants (estimated 34,000 people) of the wider area of Goražde will have social benefits from this project. The project will contribute to the protection of the Drina River due to the increasing pressure from urban areas expansion and discharge of communal wastewaters without treatment to surface waters.

For SRB there are 2 projects envisaged:

- The general objective of the project titled *Conceptual design for flood protection of the Mačva plain, section Loznica - Badovinci* is to protect the Mačva plain agricultural area in the Western SRB from floods. No negative social impact is expected as a result of the creation of project documentation. Significant social impact is expected from the implementation of the designed solutions for flood protection in the length of 32km of flood protection. The population of the municipalities of Loznica and Bogatic will experience positive benefits from the construction of adequate protection, which will greatly contribute to secure economy development of these municipalities. Direct benefits from protection will encompass the local population within 19 settlements and 30,000 ha of agricultural land. The realization of the project solution will significantly contribute to the protection of public health in the municipality of Sabac, which is supplied with water from the water intake source from Prnjavor, which is very often disturbed by the floods.

There is one pilot project envisaged for MNE:

- The main pilot project objective of project titled *Upgrade of existing flood protection from river Lim in Šarampov in the municipality of Prijepolje* is the protection of part of the city of Prijepolje (Šarampov) from the river Lim. Positive social impacts on inhibitants of Prijepolje i Šarpov are expected through flood protection structure along 600 m of Lim river bank, thus providing protection for properties and land, as well the road to the villages located on the hilly area close to Šarampov and Prijepolje. The main social benefit will have around 1.000 citizens in Šarampov and 3.000 citizens in two neighbouring villages providing access to municipal centre during bad weather conditions and ensuring a decent living conditions.The project titled Assessment of climate change impacts on groundwater in Lim, Piva and Cehotina river basins and impacts on floods and drought in Lim river basin and their prevention aims to determine the impact of climate change on the level of ground water and the option for their usage for water supply. Local people in catchment areas of the Lim, Piva and Čehotina rivers will see social benefits from this project because these areas are waterless and local population is faced with water shortage. Key social impacts will be based on the project results as regards justifiability of usage for the water supply of local population that shall be determined. The project component titled Flood prevention and irrigation in the Lim River Basin with

the aim of mitigating the impact of climate change aims at identifying climate change impacts on floods and drought in the Lim River basin and their prevention. Key social impacts on local people are expected through the identification of flood areas, preparation of flood zone maps, determining critical sections, preparation of an action plan for the prevention of floods and adequate measures proposed accordingly. All of the proposed activities will have a positive and significant impact on the safe agricultural production, which will open opportunities for greater investment and expansion of production and will have a positive impact on increasing household income. Local residents will greatly benefit from this project because it will contribute to the raising of consciousness in terms of anthropogenic impacts on floods, mitigation and reduction of flood risks by means of appropriate spatial planning and land usage, preserved vegetation on muddy terrains, forestation of barren land, and protection with gabion walls and embankments on critical sections, etc. The analysis of irrigation needs in the valley of the Lim and Vranješka Rivers will define irrigation options and needs for agricultural areas to increase crops yields and to prepare conceptual designs for irrigation systems, which will be of significant benefit to the local population.

Annex 9: DRB Map

BOSNIA AND HERZEGOVINA
MONTENEGRO
SERBIA
THE WEST BALKANS DRINA RIVER BASIN MANAGEMENT (WBDRBM) PROJECT