Report Number: ICRR0022829

1. Project Data

Project ID	Project Name
P145048	West Balkans Drina River Basin Mgmt.
Country	**Practice Area(Lead)**
Western Balkans	Water

L/C/TF Number(s)	Closing Date (Original)	Total Project Cost (USD)
TF-A2317,TF-A2318,TF-A2319,TF-A2320,TF-A2321,TF-A2322	31-Oct-2020	8,603,960.23
Bank Approval Date	**Closing Date (Actual)**	
09-May-2016	30-Apr-2021	

	IBRD/IDA (USD)	Grants (USD)
Original Commitment	8,732,420.00	8,732,420.00
Revised Commitment	8,693,825.30	8,603,960.23
Actual	8,603,960.23	8,603,960.23

Prepared by	Reviewed by	ICR Review Coordinator	Group
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2. Project Objectives and Components

a. Objectives

The Project Development Objective (PDO) of the West Balkans Drina River Basin Management Project (WBDRBM) as articulated in the Project Appraisal Document (PAD, paragraph 9) was to:

"improve mechanisms and capacity of the Project Countries to plan and manage the transboundary Drina River Basin (DRB), incorporating climate change adaptation."

The PDO was identical to the one mentioned in each of the four Global Environment Facility Trust Fund and Special Climate Change Fund Grant Agreements with the Republic of Serbia, Montenegro, the Federation of Bosnia and Herzegovina, and Republika Srpska.

Parsing of the Objective: For the purpose of this review the PDO will be parsed into two sub-objectives which will be referred to as Objective 1 and Objective 2 as follows:

Objective 1: to improve mechanisms and capacity to plan the transboundary Drina River Basin (DRB).

Objective 2: to improve mechanisms and capacity to manage the transboundary DRB.

Climate change adaptation is transversal and will be incorporated both in the planning and in the management of the DRB.

b. Were the project objectives/key associated outcome targets revised during implementation?

Yes

Did the Board approve the revised objectives/key associated outcome targets?

No

c. Will a split evaluation be undertaken?

Yes

d. Components

The project contained the following three components to achieve the PDO:

1. Multi-State Cooperation in Transboundary DRB Management (appraisal cost: US$2.94 million, SCCF: US$0.446 million; GEF IW: US$2.50 million, actual cost: US$3.49 million). This includes two sub-components as follows:

1.1. Development of an agreed Strategic Action Plan (SAP) mainstreaming transboundary Integrated Water Resources Management (IWRM) and climate change adaptation in national planning. This sub-component would contribute to improved planning by supporting the following activities: (i) preparation of a SAP for the DRB based on 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.

1.2. Institutional development and capacity building. This sub- component would 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, Entity and local policy and regulatory reforms to facilitate international DRB management; and (iii) participation in GEF IW: LEARN activities.

2. Pilot Investments for Integrated DRB Management Including Flood and Drought Management and Climate Change Resilience (appraisal cost: US$5.28 million, SCCF: US$3.670 million; GEF IW: US$1.616 million, actual cost: US$4.70 million). This includes two sub-components as follows:

2.1. Strengthening capacity for climate change resilience. This component would support better preparedness for threats resulting from floods and droughts while making optimal use of the environmental DRB assets and engaging local communities. The Project would support the following activities: (i) strengthening of four hydro-meteorological services (HMSs)/River Basin Authorities (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 to increase public awareness about the objectives of, and activities under the Project; and to engage the basin communities in more active partnership; (iv) Small Grants program; and (v) support to flood and drought preparedness measures and enhanced early warning system.

2.2. Pilot investments for climate change resilience. This sub-component would support pilot project investments that reduce negative climate change impacts in all three riparian countries, including, investments for: 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.

3. Project Management and Monitoring & Evaluation (appraisal cost: US$0.5 million; SCCF: US$0.25 million; GEF IW: US$0.25 million, actual cost: US$0.43 million). This component would support overall project management, monitoring and evaluation (M&E) and auditing.

Revised Components
Under Component 1, Multi-state Cooperation in Transboundary DRB Management, the scope of the modelling activity was reduced. The modelling of the climate change impacts was dropped. The developed hydrological and hydraulic model can eventually be extended with a climate change module by the countries' water agencies at a later stage.

Under Component 2, Pilot investments for Integrated DRB Management including Flood and Drought Management and Climate Change Resilience, the target value of replicable demonstration-scale activities has been reduced from 8 to 6.

e. Comments on Project Cost, Financing, Borrower Contribution, and Dates

Project Cost. The total project cost was estimated at US$8.73 million. The actual total project cost according to the ICR data sheet (page 2) was US$8.60 million (about 99% of the appraisal estimate).

Financing. The project was financed through a Grant in total amount of US$8.74 million provided by the Global Environment Facility (GEF) and the Special Climate Change Fund (SCCF), equally. In accordance with criteria mutually agreed between riparian countries, out of the total grant, US$3.16 million was allocated to Bosnia and Herzegovina, US$2.72 million to Montenegro and US$2.64 million to Serbia. The actual disbursed amount according to the ICR data sheet (page 2) was US$8.60 million.

Borrower Contribution. The Borrower countries (Bosnia and Herzegovina, Montenegro and Serbia) were expected to contribute US$2.0 million in in-kind contributions. The exact amounts contributed were not reported by the ICR.

Dates. The project was approved on May 9, 2016 and became effective one year later on May 11, 2017. The Mid-term Review (MTR) was conducted on June 3, 2019 (about two years after effectiveness). While the PAD did specify an expected date for the MTR, conducting the MTR two years after effectiveness was reasonable. The project closed on April 30, 2021, which was six months beyond the original closing date on October 31, 2020. According to the ICR (paragraph 20) the project closing date was extended by a total of 6 months "to allow a quality completion of the preparation of DRB water resources and basin study and hydrological and hydraulic model under component 1 and the finalization of remaining activities of the small grants program under component 2."

The project was restructured once (Level 2) on June 30, 2020, when the amount disbursed was US$3.75 million. The restructuring introduced changes to the PDO indicators and intermediate indicators and the project closing date was extended by six months. The PDO was not changed, but changes to one PDO-level indicator and the target value of one intermediate results indicator in the Results Framework were made to reflect the implementation delays.

The changes introduced during restructuring were relevant and did not affect the Theory of Change. According to the ICR (paragraph 31) changing one PDO-level indicator and the target value of one intermediate results indicator was to reflect realism and ensure quality and timely delivery.

3. Relevance of Objectives

Rationale

Context at Appraisal. The Drina River and its tributaries were known for floods and droughts with significant impacts on the local economies (PAD, paragraph 2). In recent years (2010, 2013 and again 2014) flooding caused devastation along the Drina River and its tributaries. In addition, the Drina River Basin (DRB) was assessed as that part of the Danube River Basin which was most sensitive to climate variability (PAD, paragraph 3). This project would support the beneficiary countries to improve Water Resources Management (WRM) in the DRB and it would complement already ongoing activities, which include the development of River Basin Management Plans, Flood Risk Management Plans, improved flood forecasting and warning and improved flood defenses in the Sava and Drina Basin.

Previous Bank experience. This project was the result of several years of WRM engagement and dialogue in the Balkans. The Project would 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 Bank has extensive experience in the development of River Basin Management Plans, Flood Risk Management Plans, and improved flood forecasting and warning in the Balkans as well as in other regions of the world.

Consistency with the Bank strategies. At appraisal, the project objectives were in line with Serbia's Country Partnership Framework (CPF 2016-2020) which sought to assist the country with meeting its obligations as an EU candidate country. The CPF emphasized responding to climate change and disaster

risks as 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. Objectives were also in line with Bosnia and Herzegovina CPF (2016-2020). Specifically, the priorities identified in the CPF 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 was also 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. Objectives were also in line with Montenegro's Country Partnership Strategy (CPS, FY2011-FY2015) which called for improving environmental management and reducing the cost of environmental problems. The CPS specifically identified 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.

At completion, the ICR (paragraph 23) reported that new CPFs were being developed for all three countries, with a delay due to COVID-19. The updated Strategic Country Diagnostics (SCDs) that were finalized for Serbia, Montenegro and Bosnia and Herzegovina clearly indicated that the objectives of the project were still highly relevant in all three countries. In Serbia, the updated SCD highlighted that Serbia faces major environmental challenges and climate-related risks and calls for a stronger agenda to improve the country's resilience to and mitigation of climate change. In Montenegro, objectives were in line with the CPF (FY2016–FY2021), specifically Focus Area 2: to expand access to economic opportunities and Jobs' which defined the objective of enhanced environmental sustainability. The CPF also identified the country's growing risk to natural disaster as a result of climate change and recognized the project's contribution to build resilience. In Bosnia and Herzegovina, the updated 2020 SCD identified the management of natural resources as one of the four main reform areas to achieve higher, sustainable, and equitable growth. Building resilience and helping BiH cope with adverse natural events was a priority within this area.

Consistency with Government Strategies. In Serbia, objectives were in line with the national Water Management Strategy (2016–2034) and the recent law on climate change. In Montenegro, objectives were in line with the Water Management Strategy developed in 2017. In Bosnia and Herzegovina (BIH), objectives were in line the Water Management Strategy for the Federation of BIH (2010–2022).

Consistency with the objectives of GEF-IW and the climate change agenda of the SCCF. Objectives were in line with the strategic goal of GEF- IW that called for the promotion of collective management for transboundary water systems during its 5th replenishment cycle in 2013 and again for the 6th (2016) and 7th (2018) cycles. The project contributed to GEF-IW's prioritized areas including: capacity building and institutional support and the development of disaster early warning systems. The project also helped deal with climate change-related disasters, notably floods and droughts, and thus contributed to meet short- and long-term objectives of GEF and the SCCF on adaptation to climate change.

The objectives are aligned to the Bank's twin goals of poverty reduction and shared prosperity in a sustainable manner. The statement of objectives was clear with regards to improving mechanisms and capacity to plan and manage the transboundary DRB, however, incorporating climate change adaptation was ambitious. Overall, objectives were in line with the Bank and Government strategies as well as with the GEF and SCCF objectives. Management of floods and droughts in the context of climate change will continue to be a high priority to the DRB countries. Therefore, this Review rates Relevance of Objectives as High.

Rating
High

4. Achievement of Objectives (Efficacy)

OBJECTIVE 1

Objective
To improve mechanisms and capacity to plan the transboundary Drina River Basin (DRB), incorporating climate change adaptation.

Rationale
Theory of Change (ToC). To achieve the stated objective, the project would support the development of the Strategic Action Plan (SAP), hydraulic and hydrological modelling for the DRB, support studies on water resources and pollution. These activities were expected to improve the mechanisms and capacity to plan the transboundary DRB and incorporate climate change mitigation. Anticipated long-term outcomes included supporting social and economic development and protection the environment and incorporating climate change adaptation.

The achievement of the PDO was underpinned by the following assumptions: (a) the adequacy of the institutional capacity for the implementation of the proposed activities, (b) the ongoing political support for transboundary cooperation in water resources management, and (c) consistency in the sector strategies and policies.

The activities reflected in the ToC were directly linked to the PDO in a plausible causal chain and the stated assumptions were logical and likely to be achieved.

Outputs

The following outputs were reported in the ICR (Annex 1) unless referenced otherwise.

- The Drina Basin Strategic Action Program (SAP) was prepared, as planned, target achieved.
- The DRB Water Resources and Basin Study and Hydraulic and Hydrological Modelling for the DRB with Reservoir Operation was prepared, as planned, target achieved.
- A Study for analyses of the pollution of DRB was prepared, as planned, target achieved.
- A set of environmental and social documents for Sava Drina River Corridors Integrated Development Program were prepared, as planned, target achieved.
- Procurement of the following was executed: incremental equipment and ICT – software, hardware, server; a floating curtain for emergency pollution Drina River cleaning; and equipment for monitoring water for the Geological institute in Montenegro, as planned, target achieved.

Outcome

This objective (to improve mechanisms and capacity to plan the transboundary Drina River Basin (DRB) incorporating climate change adaptation) was achieved mainly through the following two results: (a) Hydrological real time model (including climate change impacts) jointly endorsed and operational and (b) the SAP jointly prepared and endorsed at ministerial level in all three countries.

By project completion, the hydrological and hydraulic model in real time was developed, delivered to all the beneficiary institutions in each country (the Institute of Hydrometeorology and Seismology in Montenegro, the Federal Hydrometeorological Institute and the Republic Hydrometeorological Institute in Bosnia and Herzegovina, and the HMS in Serbia), but was not yet operational, i.e. target was partially achieved. According to the ICR (paragraph 34) beneficiary institutions in the three countries "confirmed their plans to fully integrate the model in their operational Water Resource Management (WRM) and in their forecasting and early warning systems." This model inputs data from all three countries which will enable close transboundary coordination and joint decision-making. The ICR (paragraph 34) noted that the model was already used for planning new investments, for example, the Bank-financed Sava and Drina Rivers Corridors Integrated Development Program (SDIP, P168862) used the model as a key instrument to improve the planning of its investments and would also support the further development of the model. Also, the transboundary model may enable the energy sector to manage the existing hydropower facilities and their reservoirs, and to plan new power plants that depend on the water resources of the entire DRB system. Finally, the ICR (paragraph 34) explained that the outbreak of Covid-19 pandemic hindered training in the use of the model. Consequently, the adoption of the model by the beneficiaries was not as fast as envisioned.

The Strategic Action Plan (SAP) was completed in July 2020 and formally endorsed by all three countries in May 2021(target achieved). The SAP was an important mechanism to plan the transboundary DRB. It was developed for a 10-year planning time span with targets set for that period. It identified priority water management concerns and a prioritized list of short-, medium-, and long-term measures for integrated, sustainable management of the DRB and to adapt to climate change. Within the SAP, three project concepts were prepared, including (a) the establishment of an integrated environmental monitoring system at the basin level; (b) a project to promote the coordinated management of groundwater resources; and (c) a project for the conservation of natural values, focusing on aquatic ecosystems. The ICR (paragraph 35) noted that the SAP was expected to guide future investments and help leverage additional donor support. For example, Phase II of the Bank-financed SDIP, would finance investments identified in the SAP.

Notable achievements under this objective also included the completion of a Water Resources and Basin Study and a Study on the Pollution of the DRB. The overall objective of these studies was to enhance the knowledge base of the DRB to better inform regional strategies for water resources management, adaptation to climate change, nature conservation, and energy and hydropower development. The Basin Study was developed in close collaboration by all three countries and included four background studies (Regional Hydrological Study, Ecological/Environmental/Maintenance/Duty Flow Study, Sediment and Riverbank Study, and the Surface and Groundwater Temperature Study), a database of torrential flows, and a geographic information system database. The pollution study set the base for cross-border cooperation and cooperation among local communities on implementing solid waste management activities to solve the floating waste problem observed in the entire DRB.

Based on the above-mentioned assessment, the efficacy of achieving this outcome is rated Substantial. While the project partially achieved its first outcome indicator (the hydrological and hydraulic model was not yet in operational and did not include climate change impacts), the second indicator was fully achieved. Further,

according to the ICR (paragraph 37), it was highly likely that the hydraulic model would become operational as the "beneficiary institutions in all countries have been trained in the use of the model and confirmed their plans to fully integrate the model in WRM and early warning systems." Finally, climate change in the DRB was supported through other activities including: strengthening of the Hydro-Meteorological Services (HMSs), as well as selected pilot projects, small grants and public awareness campaigns (see Objective 2 for details).

Rating
Substantial

OBJECTIVE 1 REVISION 1

Revised Objective
To improve mechanisms and capacity to plan the transboundary Drina River Basin (DRB), incorporating climate change adaptation.

Revised Rationale
The same ToC and Outputs apply. The Objective was not changed only the wording of the first outcome indicator was changed from: "Hydrological real time model (including climate change impacts) jointly endorsed and operational" to "Hydrological and Hydraulic model in real time including optimization of reservoir operations developed and operational."

Outcome

By project completion, the hydrological and hydraulic model in real time including optimization of reservoir operations was developed, delivered to all the beneficiary institutions in each country (the Institute of Hydrometeorology and Seismology in Montenegro, the Federal Hydrometeorological Institute and the Republic Hydrometeorological Institute in Bosnia and Herzegovina, and the HMS in Serbia), but was not yet operational. According to the ICR (paragraph 34) beneficiary institutions in the three countries "confirmed their plans to fully integrate the model in their operational Water Resource Management (WRM) and in their forecasting and early warning systems." This model inputs data from all three countries which will enable close transboundary coordination and joint decision-making. The ICR (paragraph 34) noted that the model was already used for planning new investments, for example, the Bank-financed Sava and Drina Rivers Corridors Integrated Development Program (SDIP, P168862) used the model as a key instrument to improve the planning of its investments and would also support the further development of the model. Also, the transboundary model would enable the energy sector to manage the existing hydropower facilities and their reservoirs, and to plan new power plants that depend on the water resources of the entire DRB system. Finally, the ICR (paragraph 34) explained that the outbreak of Covid-19 pandemic hindered training in the use of the model. Consequently, the adoption of the model by the beneficiaries was not as fast as envisioned.

Climate change was identified as a priority water management concern in the diagnostics part of the SAP and climate change adaptation was a main pillar of the proposed action program. The SAP defined a climate change adaptation objective, as well as specific goals, for example, the preparation of basin management initiatives for adaptation or the establishment of specific monitoring systems for climate change. The SAP would provide guidance to future investments in the DRB and identified and prioritized interventions to better adapt to climate change. The SAP incorporated 30% climate change adaptation measures (target achieved). While climate change was not part of the hydrological model, the project supported the adaptation to climate

change in the DRB through many other activities, for example, the strengthening of the HMSs, as well as selected pilot project and small grants.

Based on the above-mentioned assessment, the efficacy of achieving this outcome is rated Substantial. While the project partially achieved its first outcome indicator (the hydrological and hydraulic model was not yet in operational), the second indicator was fully achieved. Further, according to the ICR (paragraph 37), it was highly likely that the hydraulic model would become operational as the "beneficiary institutions in all countries have been trained in the use of the model and confirmed their plans to fully integrate the model in WRM and early warning systems." Finally, the project achieved fully achieved its indicator on climate change adaptation.

Revised Rating
Substantial

OBJECTIVE 2
Objective
To improve mechanisms and capacity to manage the transboundary DRB, incorporating climate change adaptation.

Rationale
Theory of Change (ToC). To achieve the stated objective, the project would establish and support the Drina Task Force (DTF), support the preparation of national and local policy reforms, facilitate the procurement of hydro-meteorological monitoring and forecasting equipment and support the provision of capacity building to relevant agencies, develop protocols for data compatibility in-between beneficiary countries, and support and implement pilot investments for climate change resilience and implement public awareness campaigns. These activities were expected to improve mechanisms and capacity to manage the DRB, incorporating climate change adaptation. Anticipated long-term outcomes included supporting social and economic development and protection the environment and incorporating climate change adaptation.

The achievement of the PDO was underpinned by the following assumptions: (a) the adequacy of the institutional capacity for the implementation of the proposed activities, (b) the ongoing political support for transboundary cooperation in water resources management, and (c) consistency in the sector strategies and policies.

The activities reflected in the ToC were directly linked to the PDO in a plausible causal chain and the stated assumptions were logical and likely to be achieved.

Outputs

The following outputs were reported in the ICR (Annex 1, unless referenced otherwise).

- The project improved the existing meteorological and precipitation stations networks and enabled conditions for the reliable rating curves at hydrological stations. Hydrological stations facilities were rehabilitated, modernized and completed hydrological stations facilities. 14 automatic meteorological stations, 38 automatic precipitation stations, 1 agrometeorological station, 30 automatic hydrological

stations, and equipment for gauging (flow meter, acoustic doppler profiler, and mechanical cableways) (ICR, footnote#10) (No targets were provided in the ICR nor in the PAD).

- Supporting a public awareness program. Public awareness campaigns benefited six municipalities in BiH and 26 municipalities in SRB. A video was broadcasted on three television stations and a radio jingle was used by local radio stations. In MNE, a video clip was produced. The ICR (paragraph 46) noted that from spring 2020 until the end of the project public activities were not possible anymore due to Covid-19 related restrictions.
- A Drina River Basin groundwater resources study with preparation of the Monography was completed for Montenegro.
- Financing a small grants program (target: 20 grants, achieved: 49 grants, target over achieved by more than double) and supporting pilot investments (original target: 8, revised target: 6 pilot investments, achieved 5 pilots, 83% achievement rate). Activities financed included: conservation projects such as improvement of fish stocks, ecotourism, and bird watching, to projects rehabilitating rainwater tanks or preventing pollution of water resources through inadequate livestock farming (ICR, paragraph 45).

Outcome

This project objective was achieved through the establishment of the Drina Task Force (DTF, outcome indicator #1) and the strengthening of the HMSs to collect and share data (outcome indicator #2), i.e. both targets were achieved. The pilot projects, small grants, and the public awareness campaign also contributed to improved management of the DRB, and incorporating climate change adaptation.

By project completion, the DTF (a project-specific steering committee to coordinate all the transboundary activities of the project) was established and functional. The DTF was responsible mainly for the daily management of regional activities leading toward the preparation of the SAP, the regional studies, the hydrological model, and the development of the protocols to exchange data. While the DTF was important for demonstrating the benefits and opportunities of transboundary cooperation and for building trust for closer collaboration in the future, it was not envisaged to be formally institutionalized for future coordination. Future transboundary transboundary collaboration in the DRB was expected to be under the "well-established International Sava River Basin Commission (ISBRC) (ICR, paragraph 40)."

The project also enabled the collection and sharing of hydrometeorological data for modelling and forecasting. Hydrometeorological data are essential for the operational hydrological and hydraulic model, management of hydrological extremes, and planning measures to adapt to climate change. Also, effective management of the water resources of the DRB relies on hydrometeorological data in quantity (types of parameters and spatial resolution of observations) and quality (accuracy and in real time). The project financed purchasing and installation of new monitoring equipment and supported the collection and exchange of data. Also, new observation stations allowed real-time measurements. The three countries coordinated to best place automatic data transfer stations in strategic areas of the DRB to close observation gaps and modernize or rehabilitate existing infrastructure in strategic locations. Using modern measurement equipment-supplied through the project, improved the accuracy of the stream flow measurements. Also, using improved software enabled the HMSs to better manage and interpret the information. According to the ICR (paragraph 41) "all equipment was purchased and fully functional as planned." The project also facilitated developing and signing protocols for data compatibility and data exchange among the three countries as envisioned. These protocols ensured easy access and distribution of hydrological and meteorological data.

This in turn facilitated the operation of the integrated hydrological-hydraulic model leading to better water resources management and investment planning in all three countries (ICR, paragraph 41).

Notable achievements under this objective also included:

1. Five pilot projects (target: 6) with final design studies, as well as concrete works to reduce the negative impact of climate change in all three riparian countries. In Montenegro, the project financed the design of a flood protection and irrigation project to adapt to climate change in the Lim River Basin, a tributary of the Drina. In Serbia, the project upgraded existing flood protection in Šarampov including also mobile parts to be installed in the case of flooding, an innovative technology not used so far in the DRB. In BiH/Republika Srpska (RS), an additional pilot project restored the degraded riverbank of two tributaries to Drina in urban areas of Novo Gorazde. Further, the project financed the assessment and upgrade of detailed design of an existing wastewater treatment facility in the City of Bijeljina (BiH/RS) and the feasibility study and preliminary design of the wastewater collector and treatment plant for Bosansko-Podrinjski Canton (BiH/Federation BiH).

2. The project financed in total 49 small grants that supported community and local initiatives in a variety of fields (see above). According to the ICR (paragraph 45) "the small grants enabled community organizations to implement and pilot concrete measures to manage and protect the DRB and adapt to climate change."

3. The project supported public awareness campaigns to raise general public awareness on the need to protect and manage the abundant natural resources in the DRB and also show the importance of transboundary cooperation for achieving this.

The project fully achieved both PDO indicators to measure the project's contribution to improve the capacity to manage the DRB. Also, the related intermediate results indicators were either fully or substantially achieved at the end of the project.

On this basis, the efficacy with which Objective 2 was achieved is rated Substantial.

Rating
Substantial

OVERALL EFFICACY
Rationale
Pre-restructuring. Overall efficacy is rated Substantial. The project achieved its PDO to improve mechanisms and capacity of the project Countries to plan and manage the transboundary Drina river basin (DRB), incorporating climate change adaptation. To strengthen the transboundary planning of the DRB, the project supported establishing the hydrological and hydraulic model as well as developing the Strategic Action Plan (SAP), which was formally endorsed as an important mechanism to plan the transboundary DRB. To improve mechanisms and capacity to manage the DRB, the project successfully established the Drina Task Force (DTF) and the strengthened the Hydro-Meteorological Services (HMSs) to collect and share data. Also,

the project-funded pilot projects, the small grants, and the public awareness campaigns were expected to support local communities to better manage hydrological risks, adapt to climate change and extreme events, use the natural resources in a sustainable manner, and protect the environment, as well as raise the awareness for managing and protecting the transboundary DRB. Finally, establishing communication and coordination among the riparian countries was a major breakthrough given the recent history of the region (ICR, paragraph 47).

Overall Efficacy Rating

Substantial

OVERALL EFFICACY REVISION 1

Overall Efficacy Revision 1 Rationale

Post restructuring. Overall efficacy is rated Substantial. The project achieved its PDO to improve mechanisms and capacity of the project Countries to plan and manage the transboundary Drina river basin (DRB), incorporating climate change adaptation. To strengthen the transboundary planning of the DRB, the project supported establishing the hydrological and hydraulic model in real time including optimization of reservoir operations developed as well as developing the Strategic Action Plan (SAP), which was formally endorsed as an important mechanism to plan the transboundary DRB. To improve mechanisms and capacity to manage the DRB, the project successfully established the Drina Task Force (DTF) and the strengthened the Hydro-Meteorological Services (HMSs) to collect and share data. Also, the project-funded pilot projects, the small grants, and the public awareness campaigns were expected to support local communities to better manage hydrological risks, adapt to climate change and extreme events, use the natural resources in a sustainable manner, and protect the environment, as well as raise the awareness for managing and protecting the transboundary DRB. Finally, establishing communication and coordination among the riparian countries was a major breakthrough given the recent history of the region (ICR, paragraph 47).

Overall Efficacy Revision 1 Rating

Substantial

5. Efficiency

Economic and Financial Analysis

ex ante

- The PAD did not include a typical economic or financial analysis and no economic or financial rates of return for the project investments were estimated.
- The project benefits included: 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 opportunities for construction of shared infrastructure).

- One of the major economic and financial benefit that could be derived from the expected project outcomes was the reduction of damages caused by future flood hazards as all riparian countries would become better prepared to mitigate flood effects especially under the current climate change scenarios.
- The PAD (Annex 6) noted that the quantification of multi-state cooperative efforts in the DRB and the potential benefits in the context of trans-boundary waters was less common, and it was even harder to find studies that specifically quantify the benefits of transboundary cooperation.
- The PAD (Annex 6) stated that: it could be reasonably assumed that the sum of all expected benefits was extremely high and by far exceeds the sum of all expected costs of this project investment.

ex post

- Similar to the PAD, the ICR did not include a typical economic and financial analysis and did not report an economic or financial rate of return for the project investments.
- The ICR (paragraph 48) explained that the project was mainly a technical assistance and not an investment project. The economic analysis was based on a qualitative assessment rather than a numerical cost-benefit approach. The ICR listed the same benefits mentioned at the appraisal stage.
- The ICR (paragraph 51) emphasized that one of the major economic and financial benefits derived from the longer-term project outcomes would be the reduction of damages caused by future flood or drought hazards as all riparian countries would be better prepared to manage these risks and mitigate the effects.
- The economic and financial effect of the 49 grants and the five pilot investments that the project implemented to better manage the DRB at the local level were not quantified.
- The project experienced no cost overruns that could affect efficiency (ICR, paragraph 55). However, it is worth mentioning that the pilot activities were reduced from 8 to 6 and by completion only five pilots were completed.

Administrative and Institutional Efficiency

The project closed six months later than the expected closing date. This Review is in agreement with the ICR that the impact of this delay on efficiency would be negligible given the long-term nature of the project's economic effects.

Summary Assessment of Efficiency

Assessing the efficiency of this project is challenging given the absence of a typical economic and financial analysis at both the appraisal stage and at the ICR stage. That said, it is plausible to assume that the project was efficiently implemented and is expected to have long-term benefits to the DRB countries, mainly, through the reduction of damages caused by future flood or drought hazards as all riparian countries would be better prepared to manage these risks and mitigate the effects.

Therefore, efficiency is rated Substantial.

Efficiency Rating

Substantial

a. If available, enter the Economic Rate of Return (ERR) and/or Financial Rate of Return (FRR) at appraisal and the re-estimated value at evaluation:

	Rate Available?	Point value (%)	*Coverage/Scope (%)
Appraisal		0	0 ☐ Not Applicable
ICR Estimate		0	0 ☐ Not Applicable

* Refers to percent of total project cost for which ERR/FRR was calculated.

6. Outcome

Pre-Restructuring. Relevance of Objectives was rated High. Overall Efficacy was rated Substantial with only minor shortcomings. The project achieved its PDO to improve mechanisms and capacity of the project countries to plan and manage the transboundary Drina river basin (DRB), incorporating climate change adaptation. To strengthen the transboundary planning of the DRB, the project supported establishing the hydrological and hydraulic model including in real time including optimization of reservoir operations was developed, delivered to all the beneficiary institutions in each country as well as developing the Strategic Action Plan (SAP), which was formally endorsed as an important mechanism to plan the transboundary DRB. To improve mechanisms and capacity to manage the DRB, the project successfully established the Drina Task Force (DTF) and strengthened the Hydro-Meteorological Services (HMSs) to collect and share data. Climate change in the DRB was supported through several activities including: strengthening of the Hydro-Meteorological Services (HMSs), pilot projects, small grants and public awareness campaigns. Efficiency was rated Substantial despite the absence of an ex-post economic and financial analysis because it is plausible to assume that the project was efficiently implemented and was expected to have long-term benefits to the DRB countries, mainly, through the reduction of damages caused by future flood or drought hazards as all riparian countries would be better prepared to manage these risks and mitigate the effects.

Based on the above assigned ratings for the three criteria (Relevance of Objectives, Overall Efficacy and Efficiency), Outcome is rated Satisfactory.

Post Restructuring. Relevance of Objectives was rated High. Overall Efficacy was rated Substantial with only minor shortcomings. The project achieved its PDO to improve mechanisms and capacity of the project Countries to plan and manage the transboundary Drina river basin (DRB), incorporating climate change adaptation. To strengthen the transboundary planning of the DRB, the project supported establishing the hydrological and hydraulic model and developed the Strategic Action Plan (SAP), which was formally endorsed as an important mechanism to plan the transboundary DRB. To improve mechanisms and capacity to manage the DRB, the project successfully established the Drina Task Force (DTF) and strengthened the Hydro-Meteorological Services (HMSs) to collect and share data. Climate change in the DRB was supported through several activities including: strengthening of the Hydro-Meteorological Services (HMSs), pilot projects, small grants and public awareness campaigns. Efficiency was rated Substantial despite the absence of an ex-post economic and financial analysis because it is plausible to assume that the project was efficiently implemented

and is expected to have long-term benefits to the DRB countries, mainly, through the reduction of damages caused by future flood or drought hazards as all riparian countries would be better prepared to manage these risks and mitigate the effects.

Based on the above assigned ratings for the three criteria (Relevance of Objectives, Overall Efficacy and Efficiency), Outcome is rated Satisfactory.

Since both outcome ratings pre and post restructuring were rated Satisfactory, the overall weighted outcome of the project is rated Satisfactory.

a. Outcome Rating
Satisfactory

7. Risk to Development Outcome

The project had a number of notable achievements including: the SAP, the hydrological models, the new equipment for hydro-meteorological monitoring, and the protocols for data exchange. According to the ICR (paragraph 84) "the sustainable use of these results depends on (a) the institutional capacity of the national stakeholder and (b) the ongoing commitment of each country to the initiated transboundary cooperation."

The ICR discussed the following risk:

The risk related to continued transboundary co-operation. Transboundary co-operation is expected to benefit from the new SDIP (P168862) that was approved by the Board in August 2020. This project is expected to further strengthen the institutional capacities, transboundary cooperation, and flood protection. Also, transboundary water management will benefit because the three countries are aligning their policies with the EU's Water Framework Directive and Floods Directive, which necessitates that the three countries strengthen their institutions and enable the transboundary management of water resources and flood risks. Finally, transboundary management is overseen by the International Sava River Basin Commission (ISRBC provides the institutional and legal framework for the transboundary management of the Drina River). Serbia and Bosnia and Herzegovina are already full members of the ISRBC and Montenegro signed a Memorandum of Understanding on the cooperation with the ISRBC.

8. Assessment of Bank Performance

a. Quality-at-Entry
The project aimed to strengthen the mechanisms for cooperation across boundaries ensuring that potential infrastructure development had no detrimental effects on the shared river basin. The project would 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 objectives were in line with the Bank strategies and country priorities (for more details see section 3).

The project was a result of a policy dialogue between the Bank and client countries in the region. The project preparation benefited from the Bank's engagement with the beneficiary countries to shape the overall strategy of the project and define the activities to be financed during implementation (ICR, paragraph 80). Despite this, the project "was not able to fully secure strong commitment and ownership in all countries (ICR, paragraph 64)." This resulted in delays reaching effectiveness as well as implementation delays.

The project design drew on the successful experience of the GEF/ Bank project: the Transboundary Management of the Neretva and Trebisnjica project in BiH and Croatia (2009–2015) which demonstrated that good results could be achieved in this complex region. However, the ICR (paragraph 80) noted that at the preparation stage, the project could have benefited from a more active engagement of the technical counterparts in Montenegro and Serbia during preparation as this could have resulted in "stronger commitment and ownership and would have mitigated some of the delays suffered in the first years of implementation." Also, design was overambitious regarding the integration of an assessment of climate change impacts into the new hydrological and hydraulic model. According to the ICR (paragraph 22) this needed additional time and resources, and eventually the module had to be dropped during implementation.

The ICR (paragraph 81) reported that the assessment of risks was adequate. Five main risks were identified at appraisal with the overall risk rated as moderate. The risk concerning the institutional capacity for implementation and sustainability was rated Substantial. Project implementation involved three national governments, two entity governments and several institutions representing different sectors involved in the implementation of the components. The ICR (paragraph 63) reported that mitigation measures were identified and partially put into action during preparation, yet the project experienced initial delays. While the project featured complex implementation arrangements, these according to the ICR (paragraph 81) "proved to be suitable." According to the ICR (paragraph 81) environmental, social, and fiduciary compliance were satisfactory.

M&E design focused on capturing quantitative achievements, but assessing the project's contributions towards capacity building was not adequately captured.

Overall, Quality at Entry is rated Moderately Satisfactory. The Bank successfully designed a transboundary project that featured complex implementation arrangements. However, design proved to be overambitious regarding the integration of an assessment of climate change impacts into the new hydrological and hydraulic model. Also, M&E design could have benefited from the inclusion of more indicators to assess capacity building.

Quality-at-Entry Rating
Moderately Satisfactory

b. Quality of supervision

The Bank conducted 9 supervision missions over the project period between 2016 and 2021. The project experienced several changes in the task team leadership and challenges related to COVID-19 at the later stage of implementation. Also, coordination among all three countries for the transboundary activities proved challenging and took longer than anticipated. The project benefited from the Bank's close support throughout implementation. According to the ICR (paragraph 67) "substantial support and guidance to the PMT and PITs were provided throughout the project through fully engaged country offices." This enabled the project to successfully achieve its outcomes despite initial delays. The project restructuring could have been done at an earlier stage during implementation.

The Quality of Supervision is rated Satisfactory. Despite the complex nature and the Covid-19 challenges, the Bank successfully implemented this complex transboundary project and steered it towards achieving its objectives.

Overall, the Bank Performance is rated Moderately Satisfactory.

Quality of Supervision Rating
Satisfactory

Overall Bank Performance Rating
Moderately Satisfactory

9. M&E Design, Implementation, & Utilization

a. M&E Design

- The Project Appraisal Document (PAD) did not require a Theory of Change (ToC) or results chain. Nevertheless, the ICR included an ex-post ToC that was constructed based on the PDO and the results indicators of the PAD. Overall, the ToC in the ICR was sound and reflected the relation between the project inputs, outputs, outcomes and long-term outcomes.
- The objectives were clearly specified, however, the term "incorporating climate change adaptation" was broad and vaguely attached to the main objectives.
- The PDO statement was to be assessed through five PDO indicators. Based on the PDO phrasing the key outcomes of the project were ‘to plan’ and ‘to manage’ the transboundary DRB as indicated in the Theory of Change. However, the PAD defined key outcomes as ‘improved mechanisms’ and ‘improved capacities’ to plan and manage the transboundary DRB. Improved mechanisms would be achieved through jointly endorsing and operationalizing the hydrological real time model (including climate change impacts) operational (outcome indicator #1); also through jointly preparing and endorsing SAP at ministerial level in all three countries (outcome indicator #2). Improved capacity was to be achieved through an operational Drina task force (outcome indicator #3); and collecting and sharing hydro-meteorological data for modelling and forecasting (outcome indicator #4). Finally, climate change adaptation would be achieved when 30% of SAP activities addressed climate change issues related to droughts and floods (outcome indicator #5). While these indicators encompassed all outcomes of the PDO, the element of institutional capacity was not fully captured. Also, achieving climate change adaptation might need more time to materialize.

- The Results Framework (RF) included nine intermediate results indicators. Most of which were adequate to capture the contribution of the operation's activities and outputs toward achieving PDO-level outcomes. However, the M&E design could have benefited from additional indicators to better evaluate the impact of the project on institutional capacities for transboundary cooperation (ICR, paragraph 70).
- Overall, the RF indicators were specific, measurable, achievable, relevant, and time-bound. All indicators had clear targets and baselines reflected in the RF.
- M&E design and arrangements were well-embedded institutionally as the Project Management Team (PMT) and Project Implementation Teams (PITs) were responsible for monitoring project performance and achievement of project outcomes and results.

b. M&E Implementation

- M&E implementation was briefly discussed in the ICR. There was no reporting on whether any planned baseline data was actually carried out. According to the ICR (paragraph 71) "indicators were monitored monthly and reported to the World Bank ahead of each supervision mission. They were also a central part of the client's progress reports and the borrower's ICR."
- All the indicators included in the Results Framework were measured and reported except the indicator related to "developing the climate change module to integrate the assessment of climate change impacts on the water cycle into the model" as this activity was dropped.
- During implementation the project was restructured once where one PDO-level indicator was adjusted from "hydrological real-time model (including climate change impacts) jointly endorsed and operational" to "hydrological and hydraulic model in real time including optimization of reservoir operations developed and operational." Also, the target for an intermediate outcome indicator for pilot projects was reduced from 8 to 6. These changes were relevant since the integration of an assessment of climate change impacts into the new hydrological and hydraulic model required additional time and resources.
- Overall, the RF data reported in the ICR were found to be reliable and of good quality.

c. M&E Utilization

- The ICR briefly discussed M&E utilization. According to the ICR (paragraph 72) the PMT and the Bank used the indicators to track implementation progress of the project.
- The M&E activities and tracking the RF indicators showed that there was limited progress in the first years of project implementation. This prompted the project management to take necessary actions to speed up implementation (ICR, paragraph 72).
- Overall, the M&E data was adequately used to provide evidence of achievement of outcomes to the extent possible.

Quality of M&E is rated Substantial with minor shortcomings. Overall, the M&E system as designed and implemented was sufficient to assess the achievement of the objectives and test the links in the results chain. However, there were moderate weaknesses in a few areas, for example, assessing the impact of the project on institutional capacities for transboundary cooperation was not adequately captured. Also, there was a discrepancy between the phrasing of the PDO and the design of RF as noted above.

M&E Quality Rating
Substantial

10. Other Issues

a. Safeguards

The project was categorized as an environmental category B, where no major adverse environmental impacts were anticipated under the project. The project triggered the following safeguard policies: OP 4.01 Environmental Assessment, Natural Habitats (OP/BP 4.4), OP/BP 7.50 for Projects on International Waterways, Forests (OP/BP 4.36), Involuntary Resettlement (OP 4.12), and Physical Cultural Resources (OP/BP 4.11). The DRB included several natural parks and nature reserves, forested areas, and areas of cultural interest. OP/BP 7.50 for Projects on International Waterways was triggered since the Drina river was an international waterway that joined the Sava, and by extension, the Danube Rivers. According to the ICR (paragraph 76) "at project start, all five Sava countries were notified on the project through the ISRBC, according to the established procedure. No objections or comments were received." An Environmental and Social Management Framework (ESMF) was prepared by the client. The EMSF reflected the process to identify, mitigate, manage, and monitor environmental issues, linked to constructions and other civil works, as well as underlying social issues. The project also triggered Involuntary Resettlement (OP 4.12) due to potential land impacts associated with pilot investments of Component 2. Three separate Resettlement Policy Frameworks (RPFs) were prepared and disclosed for Bosnia and Herzegovina, Serbia, and Montenegro.

The ICR did not include an explicit statement of compliance with the Bank's safeguard policies, but stated that "the project activities were implemented in line with the World Bank environmental safeguards following the requirements of the Project Operational Manual and using tools provided in the ESMF (paragraph 74)."

Compliance with Environmental Safeguards. The ICR (paragraph 75) reported that the project implementation unit (PIU) failed to hire an environmental specialist to establish regular monitoring and reporting systems at the beginning of the project. This resulted in incomplete reporting on environmental safeguards and as a result the Bank in 2018 downgraded the overall safeguards rating to Moderately Unsatisfactory. By 2019, the PIU hired an environmental specialist and established a monitoring and reporting system, and the overall safeguards rating were improved to Moderately Satisfactory.

Compliance with Social Safeguards. According to the ICR (paragraph 77) "most of the projects were on public land and only for one sub-project, the upgrade of existing flood protection from Lim River in Šarampov in the Municipality of Prijepolje (Serbia), temporary land acquisition was needed." The owner was compensated for the purchase of access rights in accordance with the project RPF and the land the land would be restored to its original state and/or the owner would receive compensation for labor and other costs to restore it (ICR, paragraph 77).

b. Fiduciary Compliance

Financial Management (FM). The financial management arrangements were found acceptable by the Bank (ICR, paragraph 78). All financial management units were well staffed and managed. Financial reports were prepared and submitted within due dates and in an acceptable quality and format. The annually audited financial statements and the audit reports were provided to the Bank. However, the status of the audit reports was not reported by the ICR. In a further communication [01/14/2022] the project team explained that “all final audits were unqualified. For the Montenegro TSU auditors were selected late and hence the final audit is delayed. The Team’s FM Specialist is following up to check the status.”

Procurement. Procurement benefited from qualified procurement specialists with experience in other Bank-financed projects. Procurement delays were caused by delays in defining and agreeing on the technical specifications and TOR among the project partners. The ICR (paragraph 79) reported that "procurement was realized in compliance with agreed provisions of the Grant Agreement and the Procurement Guidelines."

c. Unintended impacts (Positive or Negative)

None.

d. Other

Not applicable (ICR, paragraph 61).

11. Ratings

Ratings	ICR	IEG	Reason for Disagreements/Comment
Outcome	Moderately Satisfactory	Satisfactory	The ratings of the three outcome criteria (high, substantial and substantial) results in a Satisfactory outcome.
Bank Performance	Moderately Satisfactory	Moderately Satisfactory	
Quality of M&E	Substantial	Substantial	
Quality of ICR	---	Substantial	

12. Lessons

The ICR included four lessons. The following three are emphasized with some adaptation of language:

1. Establishing transboundary cooperation and strengthening institutional capacities need to be part of long-term development strategies. Building trust among institutions of different riparian countries, establishing mechanisms for close collaboration, strengthening the capacities for this purpose, and formalizing the cooperation is a lengthy process requiring continuous external support over many years, if not decades. This cannot be fully achieved within a single project despite the progress made. While this project made important contributions for the transboundary management of the Drina River Basin, its results will only be sustainable if further support to each country is provided. In the case of this Project, this will be provided through the new Sava and Drina Rivers Corridors Integrated Development Program (SDIP, P168862), and the Sava River Basin Commission.

2. To ensure accurate assessment of achievements, M&E design for projects focusing on developing institutional capacities need to include specific capacity assessments and evaluations to accurately assess achievements. To better assess the results of activities to strengthen capacities or create awareness, an M&E system should include specific capacity assessments and evaluations, for example, based on polls and surveys. This is essential for determining whether projects effectively deliver on capacity building and contribute to long-term outcomes.

3. To ensure successful management of transboundary projects, adequate financial resources need to be earmarked to managerial/supervision requirements. Despite an experienced PIU in each country, the project still required substantial managerial and administrative support. Elevated transactions costs and close supervision through country offices must be anticipated and adequately resourced. Engaging the local staff at country offices and recognizing their undisputed role for smooth project implementation is a key to success, especially in the complex projects that involve many countries and different stakeholders who need continuous supervision and support.

13. Assessment Recommended?

No

14. Comments on Quality of ICR

Quality of Evidence. The ICR benefited from an adequate M&E system. The ICR used the project data to the extent possible to assess the project outcomes.

Quality of Analysis. The ICR provided clear linking to the extent possible between evidence and findings and used the evidence base to serve the arguments under the different sections, in particular the discussion on outcomes.

Lessons. Lessons reflected the project experience and were based on evidence and analysis.

Results Orientation. The ICR included a comprehensive discussion on the achievement of the two PDOs. However, the ICR discussion was slightly skewed towards reporting on the achievement of outcome indicators. The discussion could have benefited from a more balanced approach between what the project actually achieved on the ground and the achievement of outcome indicators.

Internal Consistency. Various parts of the ICR were internally consistent and logically linked and integrated.

Consistency with guidelines. The ICR successfully used the available data to justify most of the assigned ratings. Discussion of outcomes was adequate. However, the ICR lacked a typical efficiency analysis and no ERR or FRR were provided.

Conciseness. The ICR provided comprehensive coverage of the implementation experience and candidly reported on shortcomings. The reporting on safeguards was brief and did not include an explicit statement on compliance. Also, the ICR did not report on the status of the final audit reports for the project. The sections on M&E implementation and utilization could have benefited from more details and the outputs in Annex 1 lacked targets.

Overall, the Quality of the ICR is rated Substantial with only minor shortcomings.

a. Quality of ICR Rating
Substantial