INTERNATIONAL SAVA RIVER BASIN COMMISSION

Terms of Reference

for

Development of the Climate Change Adaptation Strategy for the Sava River Basin

January 2025

PROJECT:	SAVA AND DRINA RIVER CORRIDORS INTEGRATED DEVELOPMENT PROGRAM (SDIP)-Phase 1, Part 4 – Regional Cooperation
IMPLEMENTING AGENCY:	International Sava River Basin Commission (ISRBC)
ACTIVITY:	Development of the Climate Change Adaptation Strategy for the Sava River Basin
REFERENCE NUMBER	HR-ISRBC-343753-CS-QCBS

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1 Introduction

This assignment is a part of the regional component of the Sava and Drina Rivers Corridors Integrated Development Program (SDIP) - Phase I, Part 4: Regional Cooperation, which focuses on integrated water resources management and transboundary cooperation and aims at strengthening strategic regional dialogue and joint planning as well as sustainable management and development of the shared water resources in the Sava River Basin, including building resilience to climatic shocks.

1.1 Sava River Basin characteristics

The Sava River Basin is a major river basin of South-Eastern Europe that covers an area of approximately 97,200 km^2. Encompassing substantial portions of Bosnia and Herzegovina, Croatia, Montenegro, Serbia, and Slovenia, the Sava River Basin constitutes 12% of the Danube River Basin area, making it the second-largest sub-basin of the Danube (Figure 1).

Figure 1: The Sava River Basin overview

The Sava River is the largest tributary by discharge to the Danube River, with an average discharge of about 1,700 m3/s, which accounts for almost 30% of the Danube's total discharge at their confluence in Belgrade. The Sava River is formed by two mountainous streams: the Sava Dolinka and the Sava Bohinjka. From the confluence of these headwaters in Radovljica (Slovenia), the Sava River is 945 km long. It flows in a northwest-southeast direction through Slovenia, Croatia, Bosnia and Herzegovina, and Serbia. A schematic longitudinal profile of the Sava River and some of its main tributaries is shown in the following figure.

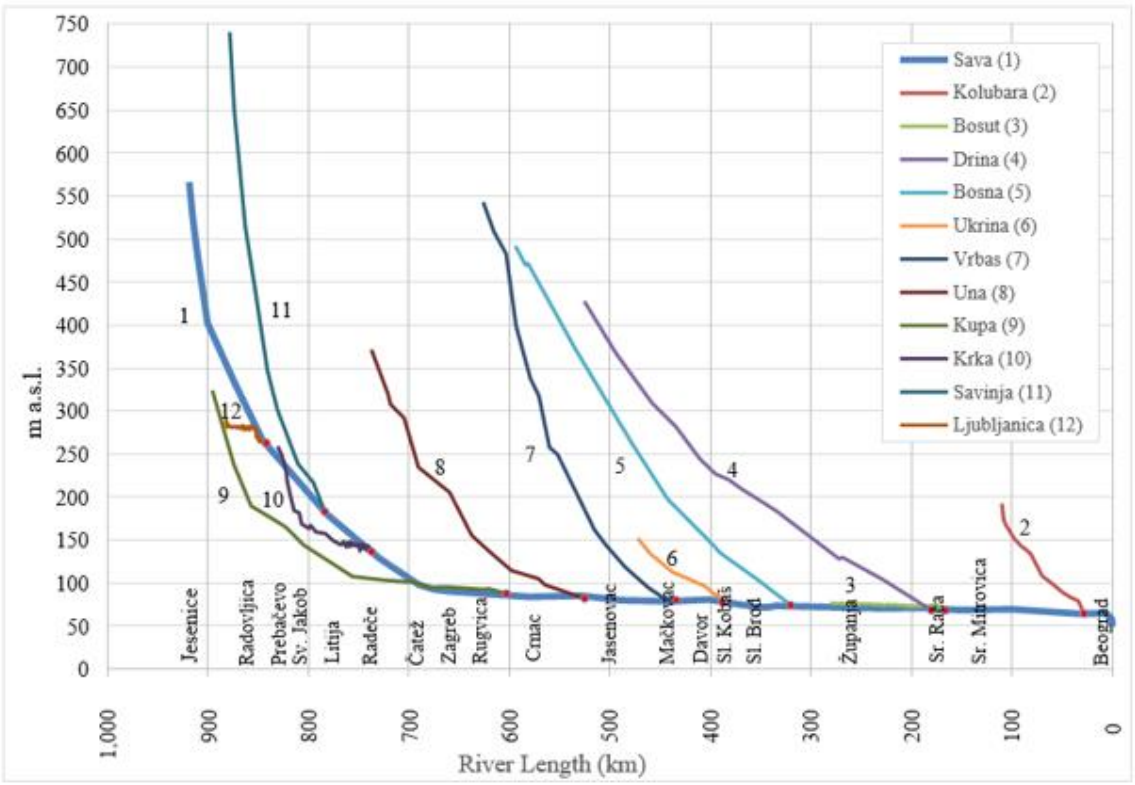

Figure 2: Schematic longitudinal profiles of the Sava River and its main tributaries

The Sava River is a vital source of water for people, ecosystems, and economies, and, as such, a prerequisite for sustainable socio-economic development of the whole region

A detailed elaboration of the main characteristics of the Sava River Basin is provided in the 2nd Sava River Basin Analysis Report prepared in 2016.

1.2 Transboundary cooperation in the Sava River basin

In 2001, the four riparian countries of the Sava River Basin (Slovenia, Croatia, Bosnia and Herzegovina, and the former Federal Republic of Yugoslavia at the time) aiming at cooperation for sustainable basin-wide water resources management, entered a process known as the Sava River Basin Initiative. The core concept of the Sava Initiative was to establish an effective institutional framework for transboundary cooperation, aiming at sustainable use, protection, and management of water resources in the basin and ultimately improving the standard of living in the region. In 2002, the process was successfully finalized by signing the Framework Agreement on the Sava River Basin (FASRB). The FASRB calls for cooperation among the Parties[1] toward, among others, three main goals: (a) establishment of an international regime of navigation on the Sava River and its navigable tributaries; (b) establishment of sustainable water management; and (c) undertaking of measures to prevent or limit hazards and reduce and eliminate adverse consequences, including those from floods, ice hazards, droughts, and incidents involving substances hazardous to water. In 2005, the International Sava River Basin Commission (ISRBC; Sava Commission) was established to facilitate the implementation of the FASRB. Since then, ISRBC has coordinated the preparation and implementation of basin-wide plans (for example, the Sava River Basin Management and Flood Risk Management plans), the development of studies for navigation rehabilitation and expansion, and the delivery of practical tools such as a Geographic Information System (GIS), and a Flood Forecasting and Early Warning System for the Sava River Basin.

[1] Parties to the FASRB are Bosnia and Herzegovina, Croatia, Serbia and Slovenia

1.3 Transboundary activities related to climate change adaptation in the Sava River Basin

Climate change or climate change adaptation issues are not explicitly addressed in the FASRB: However, recognizing the potential impacts of climate change on water systems, ecosystems, and all water-dependent sectors and the need for effective adaptation measures, ISRBC signed the Paris Pact on Water and Adaptation to Climate Change in the Basins of Rivers, Lakes and Aquifers in November 2015.

The issue of climate change has been given due attention in the basin-wide planning documents: 1st Sava RMB Plan (2014 and 2nd Sava RBM Plan (2022), as well as in relevant projects, supported or directly implemented by the ISRBC, which are listed in Table 1. They provided scientific insights, expanded knowledge of climate change and its impacts on water resources and all water-dependent sectors, and suggestions for further steps.

Activities are also related to processes ongoing in the Danube River Basin, where the Climate Change Adaptation Strategy- ICPDR (2018)) should be specifically highlighted.

Table 1: Relevant projects on climate change adaptation in the Sava River Basin

2018	Outline of the Climate Change Adaptation Strategy and priority measures for the Sava River Basin developed in the framework of the Global Alliance for Water and Climate Incubator platform supported by the International Office for Water, French Ministry of Ecological and Inclusive Transition and the UNECE.
2017	Assessment of the water-food-energy-ecosystem nexus and benefits of transboundary cooperation in the Drina River Basin, implemented by the UNECE and aiming to foster transboundary cooperation by identifying intersectoral synergies and determining measures that could alleviate tensions related to the multiple needs of the riparian countries for common resources. It identified a range of cross-sectoral technical and policy solutions for sustainable use and adding to climate resilience. The assessment also resulted e.g. in the quantification of the benefits from the coordinated operation of hydropower dams, and elaboration of possible ways to co-optimize flow regulation in the basin, both directly relevant to adaptation.
2016	Project Reconciling resource uses in transboundary basins: assessment of the water-food-energy-ecosystems nexus in the Sava River Basin, implemented within the Programme of Work for 2013–2015 under the UNECE Water Convention identified a menu of solutions to address specific intersectoral challenges and recognized many benefits of adopting a transboundary nexus approach in the Sava River Basin
2015	Project Water and Climate Adaptation Plan for the Sava River Basin - WATCAP, implemented by the World Bank, with the aim to (i) assist stakeholders and decision-makers in assessing and planning the risks generated by climate change impacts on water resources;(ii) provide a basis for future plans and studies of adaptation to climate change impacts and (iii) stimulate cooperation and debate across the basin toward additional and more detailed studies on climate change impacts at the regional and basin scale. The final report, along with the guidance notes on climate adaptation of various sectors (navigation, hydropower, agriculture, flood protection, including economic evaluation of climate change impacts), is available following the above link. A detailed elaboration on the hydrological HEC-HMS Sava model used in WATCAP is provided in Annex 1 of the report.

2013	Pilot project Building the link between flood risk management planning and climate change assessment in the Sava River Basin addressed issues on transboundary flood management taking into account the impacts of different climate change scenarios.

The issue of climate change in the Sava River Basin cannot be addressed without considering national policies, legislation, and activities, as well as without relevant information at the broader international level. Information on the national activities of the EU member states Slovenia and Croatia is available on the European Climate Adaptation Platform Climate-ADAPT, while basic information for Bosnia and Herzegovina, Serbia and Montenegro is provided in APPENDIX A.

In 2017, the ISRBC prepared, with the support of the World Bank, the Joint Plan of Actions for the Sava River Basin (JPA) (later became a basis for the SDIP) as a milestone for integrated river basin management and socio-economic development in the region, defining priority areas (PA) of cooperation in the Sava River Basin. One of the main areas of cooperation was defined: *PA5: Protecting the environment and adapting to climate change* which includes the following related action:

- *Action 5.2: Climate change adaptation process*. Development of a strategy and an action plan for climate change adaptation in the Sava River Basin. Mitigation of the impact of the rise of water demands associated with economic growth and the need to enhance environmental quality, while meeting the EU Water Framework Directive (WFD) and EU Habitat Directive (HD) guidelines.

This assignment presents a direct fulfilment of the obligations arising from Action 5.2.

2 Objective of the Assignment

2.1 Main objective

The main objective of the assignment is to, through participatory approach of stakeholders, develop the Climate Change Adaptation Strategy for the Sava River Basin (CCA Strategy), and an Action Plan for implementation of adaptation actions focused on adaptive and flexible management approaches, with aim to enhance adaptive capacity and resilience to climate shocks in the Sava River Basin.

2.2 Specific objectives

The specific objectives are:

- To enhance the stakeholder capacity to effectively anticipate and respond to climate change and their involvement in the climate change adaptation process at the transboundary level, ensuring intersectoral and basin-wide coordinated adaptation efforts.
- To assess climate change vulnerability, risks and impacts on water resources, water infrastructure, aquatic ecosystems, and water-dependent sectors taking into consideration climate-related hazards.
- To define vision and adaptation objectives and to identify climate adaptation options suitable for the Sava River Basin.
- To propose an Action plan for implementation of adaptation actions and to identify key programs/activities/projects/investments necessary for planning, management, and implementation of prioritized adaptation options through specific basin wide actions.
- To develop an easy-to-use interactive web-based tool to present findings of the CCA Strategy to a wide range of stakeholders.

- To develop a monitoring and evaluation framework for the follow-up of the strategy implementation, including a set of indicators to assess the effectiveness of adaptation actions and facilitate adjustments of the strategy over time.

3 Scope of services, Tasks (Components) and Expected Deliverables

3.1 Main activities

The Consultant shall implement the following activities[2]:

A. Comprehensive analysis of climate change adaptation in the Sava River Basin

- Comprehensive stakeholder analysis and identification of focus groups and definition of specific stakeholder engagement modes for carrying out all phases of strategy development and adaptation process, considering also the Stakeholder Engagement Plan for Part 4 of the SDIP.
- Analysis of climate change adaptation policies, strategic and planning documents, and relevant activities and projects in the Sava countries to ensure compliance of the CCA Strategy for the entire basin with the existing policy/governance framework and available knowledge, taking into account also best international practices and EU framework.
- Assessment of the existing challenges, gaps and uncertainties in CCA management, planning and implementation in the Sava countries and at the basin level, to address them in the basin-wide CCA strategy development process.
- Analysis of the climate change scenarios commonly used in the Sava countries, and a proposal of climate change bounding scenarios as a basis of CCA Strategy development.
- A basin-wide impact assessment, for a number of climate change scenarios, based on essential climate variables (meteorological and hydrological) and impact indicators, primarily using publicly available data e.g. Copernicus Climate Data Store-CDS and existing results of the E-HYPE and VIC hydrological models (Temperature and precipitation climate impact and Hydrology-related climate impact). Impact assessment should include historic climate trend analysis and characterization of future climate scenarios (for at least 3 different periods). Historic climate trend analysis should use observed data, and future climate variable statistics should use the change in climate variables within Global and Regional climate models that have demonstrated the highest accuracy in the Sava River Basin.
- As additional source of information for the basin-wide impact assessment (previous task), the HEC-HMS Sava model[3], should be used to perform future climate scenario simulations. The modelling to be performed should consider the same climate variables (meteorological and hydrological) as in the previous task. The modeling shall include: (i) reassessing the existing parameters and modelling methods and updating them as necessary; (ii) conducting long-term calibration for continuous daily (and/or sub-daily) simulations and efficiently reproducing the

[2] The list of tasks and instructions presented here should not be considered exhaustive. The tasks will be confirmed based on the Inception Report and may be subject to further amendments based on insights into progress. Therefore, it is the responsibility of the Consultant to proactively reassess the requested services, to fulfil the stated objectives of the assignment. Additionally, the assignment will need to integrate results and outcomes from related activities being implemented under the Sava and Drina Rivers Corridors Integrated Development Program (SDIP) - Phase I, Part 4: Regional Cooperation.

[3] The original HEC-HMS Sava model, utilized in the WATCAP project, was recently converted from the HEC-HMS v. 3.5 to the latest v. 4.12. This version of the model, with all input data, will be delivered to the Consultant.

flow frequency and performing ensemble analysis. After finalization of the modeling activities, a technical report should be developed.

- Identification and assessment of vulnerabilities of water resources, infrastructure, ecosystems and water-dependent sectors to climate-related hazards. This should include at least collecting and analyzing existing vulnerability studies in the Sava countries, and proposal of a common methodology to be applied to the Sava River Basin taking into consideration exposure, sensitivity, and adaptive capacity of all critical assets (social, environmental, and economical). This task will be a desk-review, and no modeling is envisioned.
- Development of the methodology to assess the risks and impacts of climate change based on analysis of current and future climate-related hazards, and vulnerability of different sectors and stakeholder groups. The methodology should be built on the latest science and knowledge and based on climate stress testing of different sectors and stakeholder groups.
- Assessment and prioritization of climate change risks and impacts on ecological and chemical status of water, water quantity (supply and storage), quality and demand, taking into consideration water-dependent sectors (water resource management, navigation, agriculture, hydropower energy production, tourism, etc.), and evaluation of potential impacts and its consequences on economy, social groups, environment, and human health. The assessment should include expected impacts in the short-term, medium-term and long-term timeframes, which shall be defined with stakeholders.

B. Development of the Climate Change Adaptation Strategy with the Action Plan

- Proposal of a comprehensive CCA Strategy, containing an overview of the basin, a description of existing policies and responsible institutions and their roles in climate-related issues; vision(s) and specific adaptation objectives; results of vulnerability, risk and adaptive capacity assessments; sectoral adaptation measures and proposal of transboundary measures; governance and coordination structure; monitoring and evaluation mechanisms; policy recommendations, infrastructure investments, etc. The following approach and principles should be followed in the development of the strategy:
  - Undertaking the inclusive and multisectoral process to define the adaptation principles, objectives, and targets of climate change adaptation in the Sava River Basin.
  - Identification and assessment of basin-wide adaptation options for addressing determined climate change vulnerability and risks (activity A), taking into account the set of Key Types of Measures developed by the European Environment Agency.
  - Determination and selection of priority adaptation options which included management, planning and implementation using a multi-criteria analysis. The adaptation options could be ranked as no-regret, low regret, win-win, flexible and multi-benefit options for short-, mid- and long-term timeframes. The selection of priority adaptation options should be done in close interaction with stakeholders identified in (A).
- Proposal of the Action Plan with cost estimations and financing possibilities, associated with the CCA Strategy in which the following essential elements should be addressed:
  - Implementation steps and pathways considering the uncertainty of climate change impacts in short-term, mid-term and long-term timeframes.
  - Instruments for implementation, and integration of adaptation actions into relevant sectoral policies and other existing instruments.
  - Integration of gender and social inclusion into adaptation actions, with measures designed to address the unique needs of vulnerable groups, including women, youth, and

marginalized communities. This should include gender-disaggregated data collection and an assessment of resources needed to ensure inclusive implementation.

- Outline the suitability of each proposed action, including a detailed estimate of investment needs, required financing strategies, sustainability criteria, and stakeholder engagement to ensure long-term impact and effective implementation actions,
- Proposal of human, financial and knowledge-related resources for the implementation of the actions.
- Determination of roles and responsibilities of the relevant actors for actions implementation.
- Assessment of potential synergies, as well as possible barriers, and conflicts associated with the action's implementation.

The Action Plan should ensure a proper uptake of climate adaptation actions to reach the goals of the CCA Strategy.

- Proposal of the methodology, roles and responsibilities for monitoring and evaluation of the CCA Strategy implementation by defining indicators to assess the effectiveness of adaptation actions and facilitate the adjustment of the strategy over time. If possible, the already defined indicators in the Sava countries (if any) should be considered.
- An interactive web-based tool shall be developed, in accessible format and language to present findings of the CCA Strategy for a wide range of stakeholders (policy/decision makers, general public etc.). The basic functionality[4] should enable users to access, analyze, and visualize information (through interactive maps, graphs and data visualization using appropriate libraries) and allow users to select climate adaptation actions for each affected sector, such as navigation, hydropower generation, agriculture, etc. The task includes the development of a design and prototype and thorough testing of the initial version of the web-based tool by stakeholders. All shortcomings and bugs identified during testing must be removed. Final testing and operationalization should be conducted to ensure compliance with all technical requirements. This includes verifying its functionality within the ISRBC's IT environment, with a focus on reliability, security, multi-user access, and efficiency/performance.
- A preliminary assessment of environmental and social risks and impacts that can be caused by proposed basin-wide adaptation actions should be prepared. If any risks are identified recommendations that include ways to mitigate the identified risks should be provided.

The CCA Strategy with an Action Plan should be developed in close cooperation with the relevant stakeholders (national and international), based on the principles of sustainability, integrated planning, flexibility, adaptive management, risk reduction, resilience building, cost-effectiveness, and inclusiveness, enabling the definition of transboundary solutions for basin-wide adaptation measures. All activities detailed under this ToR must be performed in a way that is materially consistent with the World bank's Environmental and Social Framework (ESF).

In the course of the assignment, the Consultant shall organize the following events with the participation of key stakeholders:

i. Kick-off meeting during the Inception Phase (months 1-2) to present the planned activities and get feedback from participants.

[4] Functionalities should support the online public and private/restricted domain, promote integration of open-source data and enable access to external data sources, where possible, but should not be restricted by licenses, recurring subscription fees, or specific data sets owned by a single entity. The tool should be designed as scalable and flexible solution to allow the incorporation of the innovative functionalities (artificial intelligence, machine learning, etc.). All coding should be open for ISRBC, and in line with ISRBC practices.

ii. Intermediate workshop (months 5-6), to present and discuss the *Comprehensive analysis of climate change adaptation in the Sava River Basin* (Activity A) and to discuss the CCA Strategy preparation as well as design of the web-based tool, with the main stakeholders.
iii. Final conference (month 13), to present and discuss the *final draft of the CCA Strategy with the Action Plan*, and the operational version of the installed and tested web-based tool with the main stakeholders (movie, booklet) submitting the final draft of the CCA Strategy with the associated Action Plan and other deliverables to present and discuss the CCA Strategy with the Action Plan with the main stakeholders.

The events will be essentially held in person, with an option to participate online. The estimated number of participants attending the events in person is as follows: 30 at the kick-off meeting, 30 at the intermediate workshop, and 50 at the final conference. The Consultant should provide an adequate meeting room, equipped with modern technical equipment, which includes excellent sound systems, quality lighting, projector, screen, and high-speed internet. The costs of refreshments and meals for in-person participants will be borne by the Consultant. For each event, the Consultant shall prepare an agenda with background information, draft documents and presentations outlining critical issues for discussion. The Consultant shall also moderate the events, and write the minutes highlighting findings, agreements, and other relevant details.

In addition, the Consultant shall present the draft project outputs at the meetings of the ISRBC expert groups (Permanent Expert Groups for River Basin Management, Flood Protection, Navigation, and Hydro and Meteorological Issues) which will review and provide comments and recommendations for the draft reports and deliverables. The participation of the Consultant at the meetings may be in person or online. It is estimated that the eight meetings of these expert groups will be organized by the ISRBC during the assignment.

During the implementation of the assignment, the Consultant will, on an ad hoc basis, prepare appropriate materials for public dissemination, which may include press releases, and news for the web and social media, in English and one of the official languages of the Parties to the FASRB.

4 Main Deliverables

The Consultant should provide the following main deliverables:

- The **Comprehensive analysis of climate change adaptation in the Sava River Basin** in the Sava River Basin based on the stakeholder analysis, analysis of strategic and planning documents and policies, evaluation of existing knowledge, framework conditions, objectives, and identification of vulnerabilities, with hydrological model upgraded, calibrated, and verified.
- The **Climate Change Adaptation Strategy for the Sava River Basin**, based on the latest science and legislative and policy framework in the Sava River Basin countries, comprising risks and vulnerabilities and resulting priority fields of action, objectives and targets, underlying principles, agreed adaptation measures and a system for monitoring and evaluation.
- An **Action plan** for the selected priority actions associated with the CCA Strategy with the indication of the timeframe (short, medium and long term), cost estimates, and expected impacts of the actions' implementation, with the interactive web-based tool.
- **Booklet** of max 8 pages with the main findings of the CCA Strategy and the accompanying Action Plan
- **Policy recommendations summary** for decision-makers in an accessible language and format, supported by data visualization.

- Short informative **video** on CCA in the Sava River Basin

5 Reporting Requirements and Time Schedule for Delivery

5.1 Reports, associated deliverables and deadlines for their submission

Month*	Report	Content of Report and Associated deliverable
1	Draft Inception Report	
2	Inception Report	• Detailed description of the activities that are going to be performed during the assignment • Detailed timetable • Identification and explanation of modifications to the initial methodology as set out in the Technical Proposal • Minutes from the Kick-off meeting
5	Draft 1st Interim Report	
6	1st Interim Report	• **Comprehensive analysis of climate change adaptation in the Sava River Basin** • (containing all activities defined in Chapter 3, A) • HEC-HMS hydrological model upgraded, calibrated, and verified, with report on performed activities • Design of Interactive web-based tool prepared • Minutes from the Interim workshop
9	Draft 2nd Interim Report	
10	2nd Interim Report	• *Draft* **Climate Change Strategy with the associated Action Plan** (containing all activities defined in Chapter 3, B) • Initial version of interactive web-based tool
12	Draft Final Report	
13	Final Report	• Description of all activities implemented during the Assignment • Minutes from the Final Conference Final deliverables: • **Climate Change Strategy with the associated Action Plan** • Operational version of the web-based tool installed, tested and delivered • **Booklet** • **Policy recommendations summary** • **Video** (max 5 min).

*From the commencement of the assignment

The Consultant shall also prepare short monthly progress reports (5 pages maximum) containing:

- Progress on tasks and deliverables, including any challenges and risks.
- Review and feedback on the work completed.

– Verification that the project remains on track and aligned with the objectives and, if necessary, propose corrective measures.

Submitted and approved reports and related deliverables shall constitute the basis against which the payments to the Consultant will be made.

5.2 Format of the reports and deliverables

All draft reports, presentations, annexes and supporting/background materials (excel, word, etc.), including the main deliverables, shall be submitted only electronically in an editable format to the Project Coordinator, who will be responsible for approval of the reports and deliverables. The Consultant must submit the final version within 21 days of receiving comments. The approved reports shall be delivered in digital format and in two hard copies.

The final CCA Strategy should be delivered in digital format and printed versions (20 copies). The CCA Strategy must be accompanied by necessary maps/graphs/figures. All maps/graphs/figures and data used for their development should be delivered in an appropriate digital editable format.

The Consultant shall also prepare a **Booklet** of max 8 pages with the main findings of the CCA Strategy and the accompanying Action Plan in English and all official languages of the Parties for public dissemination. The booklet should be printed in 50 copies per language.

To increase the visibility of the CCA in the Sava River Basin the short informative **video** (max 5 min) should be prepared to inform the target groups and public with the focus on the main finding of CCA Strategy and the Action Plan.

All reports and related deliverables shall be submitted in English.

6 Team Composition & Qualification Requirements for the Consultant

6.1 Consultant Qualifications

1. The Consultant must be a legal entity whose core business should comprise substantial experience and expertise in the various domains relevant to climate change adaptation: policy analysis, water management, environmental protection, data management and use of information and communication technologies.
2. The Consultant must have completed in the last ten (10) years at least three (3) similar assignments related to the development of climate change adaptation strategies and plans. References (containing start and completion date, a brief description of the assignment, country of assignment, client name, address, reference's contact, and contract value) for the listed assignments should be attached.
3. The references should include proven experience in participatory approaches in developing adaptation strategies, and stakeholder engagement at the regional level.
4. The Consultant must demonstrate solid technical and managerial capabilities of the firm providing only the structure of the organization, general qualifications, and the availability of appropriate skills of key experts[5].

[5] *No need to provide CVs of key experts. The key and non-key experts will be evaluated at the next stages of the procurement procedure.*

Note: The Consultant's team needs to possess adequate proficiency in the official languages of the FASRB Parties to ensure fluid communication and engagement with national entities in the countries of the Sava River Basin during the contract implementation.

The criteria for the selection of the Consultant are:

a) Overall experience relevant to the assignment –	35 points
b) Similar contracts to demonstrate specific experience –	50 points
c) Firm organization and availability of key experts-	15 points
TOTAL:	100 points

6.2 Team Composition

The Consultant shall ensure that appropriately qualified experts are assigned for each of the tasks described in this Terms of Reference, along with the necessary equipment to complete the required activities and achieve the overall and specific objectives of the assignment, in terms of time, costs, and quality.

For this assignment, the Consultant should deploy a well-balanced team of international and local experts possessing the following qualifications, in a specialist position:

Key expert 1 - Team leader

1. Advanced university degree (master's or equivalent) in integrated natural resources management, water resources management, hydrology, meteorology, or another field relevant to the assignment.
2. At least 10 years of proven qualifying progressively responsible professional experience in implementing similar assignments in transboundary contexts.
3. Experience in the implementation of at least 5 service contracts in the last 10 years that are the same or similar to the assignment.
4. Project management experience in international, intersectoral and multidisciplinary projects, including at least one of the service contracts as a Project Team Leader
5. Excellent command of written and spoken English.

Key expert 2 - Climate change adaptation specialist

1. Advanced university degree (master's or equivalent) in the field of Environmental Science, Climate Science, Geography, Meteorology, Ecology, or Natural Resource Management or another field relevant to the assignment.
2. At least 7 years of proven qualifying professional experience in implementing similar assignments.
3. Experience in the implementation of at least 3 contracts in the last 10 years for services that are the same or similar to the assignment performed as a climate change adaptation expert.
4. Excellent command of written and spoken English.

Key expert 3 - Water management specialist

1. Advanced university degree (master's or equivalent) in the field of water management or another field relevant to the assignment.
2. At least 7 years of proven qualifying professional experience in implementing similar assignments.
3. Experience in the implementation of at least 3 contracts in the last 10 years for services that are the same or similar to the assignment.
4. Excellent command of written and spoken English.

Key expert 4 - Environmental protection specialist

1. Advanced university degree (master's or equivalent) in the field of environmental protection or another field relevant to the assignment.
2. At least 7 years of proven qualifying professional experience in implementing similar assignments.
3. Experience in the implementation of at least 3 contracts in the last 10 years for services that are the same or similar to the assignment.
4. Proven knowledge and experience in working on provisions of the Environmental and Social Framework (ESF) of the World Bank will be taken as an advantage.
5. Excellent command of written and spoken English.

Key expert 5 - Social specialist

1. Advanced university degree (master's or equivalent) in the field of social science or another field relevant to the assignment.
2. At least 7 years of proven qualifying professional experience implementing similar assignments.
3. Experience in the implementation of at least 3 contracts in the last 10 years for services that are the same or similar to the assignment.
4. Proven knowledge and experience in working on provisions of the Environmental and Social Framework (ESF) of the World Bank will be taken as an advantage.
5. Excellent command of written and spoken English.

The pool of experts should also include non-key experts necessary for the successful completion of the assignment, with specific expertise, such as:

- Climate science
- Hydrological Modeling
- Macro-Economics
- IT/Web Design
- GIS/Data analysis
- Stakeholder engagement/Public communication, etc.

The list of non-key experts shall be approved with the approval of the Inception Report, i.e., when the final scope of services for the assignment will be (re)defined and approved by the Project Coordinator.

Table 2: Estimated input per expert

Experts	Estimated number of days
Key expert 1 Team Leader	50
Key expert 2 (Climate change adaptation specialist)	65
Key expert 3 (Water management specialist)	55
Key expert 4 (Environmental protection specialist)	40
Key expert 5 (Social specialist)	40
Non-key experts	140
TOTAL	390

7 Client's Input

The ISRBC shall

- make available to the Consultant relevant documentation in electronic form.

- make available the existing Sava HEC-HMS hydrological model and related GIS data in native format.
- facilitate contacts with the stakeholders and assist in the collection and valorization of comments where necessary.
- support in the organization of meetings/conferences/events.

8 Working languages

The working language is English.

9 Duration of the Assignment

The expected duration of the assignment is **13 months** from the commencement date.

10 Selection process

The Consultant will be selected under the provisions of the World Bank Procurement Regulations for IPF Borrowers (Procurement Regulations), in investment project financing Goods, Works, Non-Consulting and Consulting Services November 2020, based on the method of Quality and Cost Based Selection (QCBS) Lump Sum Contract.

APPENDIX A: Indicative list of CCA strategies and plans in Bosnia and Herzegovina, Serbia and Montenegro

Bosnia and Herzegovina

Project	Implemented by	Content	Timeframe
Integrating climate change in reducing the risk of floods in the Vrbas River Basin	Ministry of Foreign Trade and Economic Relations of BA, Ministry of Physical Planning, Construction and Ecology of the RS, Ministry of Agriculture, Water Management and Forestry of FBiH, Ministry of Agriculture, Forestry and Water Management of RS, Federal Ministry of Environment and Tourism	The project "Integrating Climate Change in Flood Risk Reduction in the Vrbas River Basin" will enable BiH authorities and communities in the Vrbas Basin to adapt to flood risks through the transfer of technologies that are adaptable, to enable climate resilient flood management, and support for Economic activities that are flexible in terms of climate change.	2015-2020
The 2020-2030 Climate change adaptation and low emission development strategy for Bosnia and Herzegovina)	Adopted on 3rd session of Court of Ministries of BA	The Strategy is an update of the 1st strategy developed in 2013 and aims to improve action plans based on monitoring and evaluation, as well as improve knowledge gained during the implementation of the first version of the Strategy. It analyses the climate change policies on CC. It provides situation analysis, strategy visions and goals, the adaptation strategy and the action plan and the emission reduction strategy and action plan. It also proposes the capacity building, governance and financing for its implementation and the next steps towards the sustainable 'green economy' in Bosnia and Herzegovina. It serves as a comprehensive policy framework to address the climate change challenges that BA is facing and facilitates access to international support for the implementation of activities.	December 2020, Adopted on 23 February 2023
Bosnia and Herzegovina, National Adaptation Plan-NAP with proposed measures	Adopted on 56th session of Court of Ministries of BA	The NAP is developed based on the UNFCCC recommendations to facilitate and advance their climate change adaptation planning. It aims to improve existing reporting on the development and implementation of adaptation measures and contribute to the integration of climate change adaptation into relevant social, economic and environmental policies and actions. It provides an analysis of the current regulatory framework and technical studies, the climate change trends and future climate projections, description of impacts of CC on sectors like agriculture, water resources, forestry and biodiversity, housing, human health and tourism. In the strategy also the measures for the most vulnerable sectors are proposed.	September 2021, Adopted on 26 October 2022

Serbia

Project	Implemented by	Content	timeframe
Climate Change Framework Action Plan for Adaptation for South East Europe (CCFAP)	The Regional Environmental Center for Central and Eastern Europe (REC)	Supporting key stakeholders in the region to develop programmes and projects. The ultimate aim is to support the implementation of Article 5 and Article 6 of the United Nations Framework Convention on Climate Change (UNFCCC). An additional goal was to increase the capacities of governmental decision-makers to create action plans and programmes on climate change.	2008
Initial National Communication of the Republic of Serbia under the UNFCCC	The Ministry of Environment and Spatial Planning	NCs provide information on greenhouse gas (GHG) inventories, measures to mitigate and facilitate adequate adaptation to climate change, and any other information that the Party considers relevant to the achievement of the objective of the Convention	2010
Climate change adaptation in the Western Balkans	GIZ	Establishment of a flood early warning system - Drafting of national climate change adaptation strategies - Formulation and implementation of flood or drought management plans on the communal level - Regional cooperation in integrated water resources management (IWRM) - Integrating climate change adaptation strategies in urban planning for the cities of Tirana, Podgorica and Belgrade.	2012 - 2018
Second National Communication of the Republic of Serbia under the UNFCCC	UNDP, The Ministry of Environmental Protection	NCs provide information on greenhouse gas (GHG) inventories, measures to mitigate and facilitate adequate adaptation to climate change, and any other information that the Party considers relevant to the achievement of the objective of the Convention.	2013- 2014
„Development of the Biennial update report of the Republic of Serbia to the UNFCCC“/GEF	UNDP	Development of the Biennial update report of the Republic of Serbia to the UNFCCC	
IPA 2012: Development of Climate Change Strategy	EU Delegation	Development of Climate Change Strategy	

Project	Implemented by	Content	timeframe
Climate smart urban development	UNDP	The project supports local economic and social development to adapt to climate change, through support for the implementation of innovative solutions to reduce greenhouse gas (GHG) emissions through the improvement of energy efficiency, renewable energy sources, traffic, innovative business models, technical and technological innovations and information technology.	2016-2022
CBIT – enhanced transparency framework in accordance with Art. 13. of the Paris Agreement	UNDP	Establishing a functional national MRV system that contributes to the provision of accurate and comprehensive data necessary for mitigation and adaptation to climate change; strengthened national capacities for applying the methodology and means for improving transparency based on Article 13 of the Paris Climate Agreement.	2019-2021
Development of 2nd Biennial update report) and 3rd National communication of the Republic of Serbia to the UNFCCC"/GEF	UNDP	Development of 2nd Biennial update report) and 3rd National communication of the Republic of Serbia to UNFCCC	2017-2022
Advancing medium and long-term adaptation planning in the Republic of Serbia	UNDP	To integrate Climate Change Adaptation (CCA) into national, sectorial and local government planning, thus reducing climate change related vulnerabilities throughout Serbia	2000-2023
Preparation of the First and Second Biennial transparency Reports and the Fourth National Report under the UN Framework Convention on Climate Change	UNDP	Preparation of the First and Second Biennial transparency Reports and the Fourth National Report under the UN Framework Convention on Climate Change	2023-2026
The "Cities and Climate Change" Program	SAFEGE/SUEZ	The "Cities and Climate Change" Program is a Program Loan for Public Policies, financed by the French Development Agency (AFD), and is implemented as parallel financing of the Program Loan for Public Sector Efficiency and Development Policy with Green Recovery (DPO) by the World Bank. The program aims to support the efforts of the Government of the Republic of Serbia to establish the foundations for more sustainable green growth and urban development, supporting initiatives for adapting to and mitigating climate change at the national and local levels in Serbia.	2021-2023

Montenegro

Project	Implemented by	Content	Timeframe
Climate Change Adaptation in Western Balkans – CCAWB, Plans for protection and rescue from floods in municipalities in Montenegro	Directorate for Emergency Situation in the Ministry of Internal Affairs	Assessment of the vulnerability of floods through the analysis of natural characteristics, demographic situation, and infrastructure in municipality; Hazard analysis for floods; Measures for protection and rescue from floods (structural and non-structural measures).	2012-2014