



Terms of reference:

# Development of Sector Flood Risk management policies in the Drin Basin (Agriculture and Energy)

In the framework of the: “The Integrated Climate-Resilient Transboundary Flood Risk Management in the Drin River Basin in the Western Balkans” (Drin FRM Project)

April 2023

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## Introduction

### Cooperation in the extended Drin basin

1. The Drin Basin extends in a large part of the Western Balkans (nearly 19 000 km<sup>2</sup>); it is populated by more than 1,6 million people. It consists of several sub-basins, the uppermost of which is that of the Prespa Lakes, while the lowest that of the Buna/Bojana River, adjacent to the Adriatic Sea. Shared among Albania, Greece, Kosovo\*<sup>1</sup>, Montenegro, and North Macedonia (the five 'Riparians'), the Drin River Basin provides water resources for drinking, energy, fishing, and agriculture, biodiversity, tourism and industry.
2. Coordinated action at the Drin Basin level has been absent until the development of the Shared Vision for the sustainable management of the Drin Basin and the signing of a related Memorandum of Understanding (Tirana, 25 November 2011) by the Ministers of the water and environment management competent ministries of the Drin Riparians.
3. The main objective of the Drin MoU is the attainment of the Shared Vision: *“Promote joint action for the coordinated integrated management of the shared water resources in the Drin Basin, as a means to safeguard and restore, to the extent possible, the ecosystems and the services they provide, and to promote sustainable development across the Drin Basin”*.
4. Following the provisions of the MoU an institutional structure was established in 2012. It includes:
  - The **Meeting of the Parties**.
  - The **Drin Core Group** (DCG). This body is given the mandate to coordinate actions for the implementation of the MoU.
  - Four **Expert Working Groups** (EWG) to assist the DCG in its work:
    - Water Framework Directive implementation EWG.
    - Monitoring and Information exchange EWG.
    - Biodiversity and Ecosystem EWG.
    - **Floods EWG**.

The **DCG Secretariat** provides technical and administrative support to the DCG; Global Water Partnership – Mediterranean (GWP-Med) serves by appointment of the Parties through the MoU as the Secretariat.

5. The Parties to the MoU agreed to undertake concrete short-, medium- and long-term actions to address various issues, towards the integrated management of the Basin;  
**Developing cooperation and measures to minimize flooding especially in the lower parts**

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<sup>1</sup> \* Stands for (here and after): This designation is without prejudice to positions on status and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

**of the Drin Basin** is one of the 7 identified issues (Article 3, iii) and **enhancement of cooperation in the field of flood risk preparedness, management and mutual support** is one of the short-term actions (Article 4, d) that should be implemented for achieving the MoU objective.

## The Drin Coordinated Action

6. While the process of cooperation is on-going, a number of activities have already been implemented under the Drin Coordinated Action for the implementation of the [Drin MoU](#).
7. The Global Environment Facility (GEF) supported project “*Enabling transboundary cooperation and integrated water resources management in the extended Drin River Basin*” ([GEF Drin Project, 2016-2021](#)) implemented by UNDP and executed by the Global Water Partnership (GWP) through GWP-Mediterranean (GWP-Med) has been pivotal in the implementation of the Drin MoU.
8. The GEF DRIN Project resulted in the development and the endorsement by the Drin riparians of the joint Strategic Action Plan (Drin SAP, 2020) with more than 100 actions to be implemented in the short-, medium- and long-term. The SAP further substantiates the Drin MoU. Under the SAP Goal 3: *Develop cooperation and measures to minimise flooding especially in the lower parts of the Drin Basin* Objective 1 was set to be: Management of floods risks, and droughts risks by 2030 (please see Drin [SAP](#) for more details).
9. The Adaptation Fund supported Project entitled “*The Integrated Climate-Resilient Transboundary Flood Risk Management in the Drin River Basin in the Western Balkans*” (Drin FRM Project) is designed so it is supportive to implementation of the Drin SAP’s Goal 3. The Drin FRM Project provides the framework for this assignment (more details are available in the [AF](#) project document and bellow section).

## Drin FRM Project

10. *The Integrated Climate-Resilient Transboundary Flood Risk Management in the Drin River Basin in the Western Balkans*” (Drin FRM Project, 2019-2024) is executed by the UNDP Istanbul Regional Hub (IRH). For the delivery of specific regional activities, the IRH has engaged the Global Water Partnership Organization (GWP) as a Responsible Party for the Project’s Outcome 2.
11. The objective of the project is to assist the riparian countries in the implementation of an integrated climate-resilient river basin flood risk management approach to improve their existing capacity to manage flood risk at regional, national and local levels and to enhance

resilience of vulnerable communities in the Drin River Basin (DRB) to climate-change induced floods.

12. Drin FRM Project is implemented through three components: Component 1 – Hazard and risk knowledge management tools; Component 2 -Transboundary FRM institutional, legislative and policy framework and Component 3 -Priority community-based climate change adaptation and FRM interventions.
13. This assignment is part of Outcome 2: *“Improved institutional arrangements, legislative and policy framework for FRM, and development of climate change adaptation and flood risk management strategy and plans at the basin, sub-basin, national and subnational levels”*- Activity/ Output 2.1 – Drin River Basin FRM Policy Framework and improved long-term cooperation on flood risk management.
14. Sector Flood Risk management policies in the Drin Basin will focus on Agriculture and Energy (Hydropower) sectors as one of the most important ones for the strengthening of the Integrated flood risk management of the Drin Basin. New climate resilient policies will necessarily build on and integrate the outputs of the AF project and the GEF Drin project (among others).

## Background

15. The Drin riparians are increasingly exposed to the impact of climate change. They are experiencing increased periods of extreme heat in the summer months and increased rainfall during the cooler seasons. According to long-term projections, the average annual temperature will increase by 2° C to 3° C by 2050 and precipitation will decrease in summer, resulting in longer dry periods followed by more sudden heavy rainfalls. This combination increases the likelihood of floods as well as their destructive nature.
16. Climate change has an effect on flood management as well as Agriculture and Energy (Hydropower) sectors of the Drin riparians. Historical flood data from the Western Balkans suggests a more frequent occurrence of flood events, characterized by more extreme and more rapid increase in water levels, attributed to an uneven distribution of precipitation and torrential rain, particularly over the last decade. More and larger areas and, therefore, greater population numbers are being affected by flooding with a strong impact on national economies.
17. The indicative [maps](#)<sup>2</sup> show that there is extensive flooding on the White Drin in Kosovo\*, extensive flooding in the Struga area around Lake Ohrid in North Macedonia, and high risk areas all along the valley of the Black Drin affecting several settlements in the relatively narrow floodplains. In the downstream part of the basin, in the Lake Skadar/Shkodra area,

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<sup>2</sup> Prepared by GIZ, see reference 13 in Annex I of this document

there is extensive flooding, affecting the settlements, in both Albania and Montenegro. Both high resolution flood hazard maps and flood risk maps for the Areas of the Potentially Significant Flood Risk (APSFRRs) in the Drin Basin developed under the AF Drin FRM<sup>3</sup> but also the other projects will be provided to the consultant at the beginning of the assignment (as listed in Annex I).

18. Therefore, flood risk in the Drin Riparian countries is an important disaster factor as the frequency of floods has been observed to be increasing over time. Vulnerability factors include high (9-21%) poverty rate, unemployment, poor urban planning, unsustainable water management and agricultural practices, deforestation, industrial pollution, and poor waste management in areas highly exposed to flooding.
19. Agriculture is important (its share is from 8-20 % of annual GDP for the Drin Riparians. The (economically most valuable) areas for vegetables and orchards as well as vineyards are very limited in the basin and mainly located in lake districts and along river banks. Intensive vegetable production (Shkodër, Librazd) and orchards (Prespa and Ohrid regions and Peshkopi) spots are actually situated in flood prone areas.
20. Recent and more detailed studies<sup>4</sup> under AF project assessed annual average crop losses in some pre-selected flood areas (10 communities in Albania and North Macedonia having the highest flood risk) to have a significant part share in terms of overall flood related losses (i.e., for Lezhe Municipality in ALB crop losses are estimated to be cc 1,8 mil EUR assuming flooding thresholds are 1 in 2 years).
21. Although there is evidence of the socioeconomic related impacts of floods to agriculture, related (documented/science based) knowledge is limited. As a result, the Drin riparian agricultural policies don't include flood related measures while flood policies don't include agriculture related measures.
22. Energy is another vital sector for the Drin Riparians affected by and affecting floods as hydropower is the most prominent renewable energy source in the Drin basin. There are many hydropower plants in operation along the Drin River and its tributaries<sup>5</sup>, while Albania relies almost exclusively on hydropower to cover its energy needs. This outlines the importance of the Drin River Basin for the Riparians, in terms of energy production and security.
23. The impact of uncoordinated hydropower production on flood emergency situations at transboundary level of the Drin Basin (i.e. between the Albanian and North Macedonian cascades) is still not adequately quantified and would require further investigation. According to some findings the cause of floods in Ohrid (2010) of was the decision to withhold water in the dams on the Black Drin in North Macedonia to assist the

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<sup>3</sup> For Albania and North Macedonia

<sup>4</sup> Chatterton John, 2022: Results of the Socio-economic Risk Model to support the detailed engineering design of structural measures.

<sup>5</sup> There are in total nine HPPs in the basin with above 10 MW installed capacity, producing 6,000 GWh of electricity annually

management of flooding in the Skadar/Shkodër area in Albania and Montenegro. The 2010 floods were registered as one of the most destructive in the whole Drin Basin.

24. Being a flood prone region, a key issue in the Drin basin concerns the potential conflict of priorities between hydropower production and flood control considerations, when it comes to flow regulation and multipurpose use of dams. Recent studies (Nexus, 2021) show unequivocally that a “flood peak reducing” operation of the cascade would reduce the flooded areas, as well as the water depths related to floods. The highest positive impact of a change in operations corresponds to 20-years floods and it is noted that the economic benefit associated to this change comes mostly from a reduction of flooded agricultural area.
25. Related knowledge was gained through the use of hydropower- flood modelling (NEXUS II Project, 2022) for the need of the assessment of the potential effect on flood management of increased cooperation along and between the two hydropower cascades (one in North Macedonia and one in Albania). This analysis also quantified the costs and benefits of shifting to a “flood-smart”, cooperative hydropower operation regime in the basin. However, much more efforts would be needed until common understanding and agreement on the “flood smart” management of the Drin basin HPP on transboundary level is achieved.
26. Agriculture, environment/spatial planning and energy sectors can play a crucial role in flood risk management in terms of integration as they can provide significant pool of non-structural measures and tools for the “make room for rivers” paradigm shift in flood management. Such interlinkages among the flood, agriculture and energy national policies in the Drin riparians don’t exist due to the existing institutional barriers<sup>6</sup>.
27. While national flood risk policies are under development (in all Drin riparians) with support of the IPA EU funds in line with the EU Flood directive, little inter-sectoral integration is achieved as the focus is mostly on the “traditional” engineering measures aimed to controlling floods in terms of draining flood water as quickly as possible to the next water body, store flood water temporarily, or to separate the river from the population in terms of river engineering works.
28. As noted, (and with the support of international community) solid foundation has been built to enable transition of the Drin riparians towards Integrated flood risk management principles and practices. Development of the Drin River Basin Flood Risk Management strategy (FRMS) and Flood Risk Management Plan (FRMP)<sup>7</sup> following the principles of EU acquis and IFRM<sup>8</sup> is pivotal step in that regard.

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<sup>6</sup> Recent (2022) reports done under AF project provides more details on institutional and legal setup in Drin countries as well as capacity assessment for practicing Integrated flood risk management -as listed in in Annex I

<sup>7</sup> Under development by the AF project

<sup>8</sup> See footnote 9 below.

29. Enhanced understanding of the existing interlinkages and the synergies that should be created between flood management, and agriculture and energy sectors in the Drin basin is necessary towards establishing Integrated flood risk management. The floods basin wide polices/strategic documents should contribute to the development of efficient “non-conventional” measures developed and integrated in national flood and sectoral polices.

## Aim and Objectives of the assignment

30. The aim is to enable the shift of paradigm in flood management policies in the Drin, from flood protection to Integrated Flood Risk Management (IFRM).
31. The objective is to develop Sector Flood Risk management policies in the Drin Basin for Agriculture and Energy to be considered for adoption by the Drin Riparians and propose tangible climate resilient non-conventional measures for mainstreaming into existing national frameworks.

## General approach

32. To achieve the objective under this assignment, the Consultant will:
- a) Need to reach a very good understanding of the: i) current situation regarding FRM in the Drin Riparians ii) National policy frameworks related to Energy and Agriculture sectors iii) results and outputs of the Drin FRM project. The core elements of the future basin wide Flood Risk Management Strategy (FRMS) and Flood risk Management Plan (FRMP) are already developed and are available as background documentation listed in Annex I and should be fully utilized under this assignment<sup>9</sup>.
  - b) Develop two sectoral polices using the principles defined by the [EU Floods Directive](#) and [IFRM](#)<sup>10</sup>
  - c) Consider flood management existing guidelines and content included in the relevant national policy documents.
33. In addition, the Consultant is required to follow the following general requirements:
- a) Be responsible to collect, comprehend and present all the available information, even if this information would exist in text that is in the languages of the Drin Riparians.
  - b) Confirm each of the outputs with GWP-Med assigned manager before engaging into next tasks and consultation with the stakeholders. This might be extended to the Drin FRM project team and/or structures under the Drin corda (Drin Core Group and EWG on Floods).

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<sup>9</sup> However, consultant should not limit information use only to listed document but is expected to collect and process all the information necessary for the assignment completion.

<sup>10</sup> Integrated Flood Risk Management (IFRM) is holistic approach derived from IWRM principles that stresses the interrelationship between socio-economic development environmental sustainability and flood-risk management. IFRM Plans provide a foundation for flood related decision-making as it paves forward aspects of sectoral developments that must be included for sustainably managing floods.



- c) Be responsible for presenting the outputs, moderate the meetings and keeping the minutes of the meetings during consultation process.
- d) The consultant should keep a record of comments received by the stakeholders during consultation meetings and report on how they are addressed.
- e) Be available for discussion/consultation with aligned project manager and/or members of the GWP-Med /AF team as per needs. Frequent communication is requirement for this assignment.
- f) Integrate gender disaggregated approach following on the support and recommendations from the GWP-Med Gender officer (if any).

## Scope of work

- 34. The Consultant will cover with its work three Drin Riparians: Albania, North Macedonia, and Montenegro (as per AF project scope). Information should be presented at least at the Drin Riparian level and if information is available, at the level of sub-basins (part of the Drin Basin). National information would be then harmonized and presented from a Basin perspective-where relevant.
- 35. Kosovo\* is not a beneficiary of the Drin FRM project, but related information needs to be considered and presented (the consultant may wish to identify information additional to the this that it is available in the background documentation).
- 36. The sectoral policies (Agriculture and Energy) will be developed for the already identified flood risk areas of the Drin Basin (available from background documentation) and will fully consider respective national data and policies available.
- 37. In that respect, the consultant will review national level agriculture and energy policies to identify data, policy status against IFRM, gaps and opportunities for policy coordination in the areas of flood protection, energy and agriculture and climate change.
- 38. Technical studies (to be developed) regarding the effects of climate change and flooding to agriculture and energy sectors and related interactions in the Drin basin will serve as foundation for further development of the sectoral polices. In this process the consultant will consider using outputs of the existing basin wide models (HEC-HMS/RAS/FIA. Phanta Rhei,<sup>11</sup> AF ArcGIS vulnerability model, etc.) or appropriate outputs that will be developed through the use of the consultant's own models.
- 39. The Drin Basin level sectoral polices will be developed in a comprehensive manner and will contain results of the technical studies: projected/expected implications of the Drin Basin level sectoral polices to the existing national polices; proposed measures to be

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<sup>11</sup> Panta Rhei is a dynamic hydrological model developed through cooperation between Drin Riparian Hydrometeorological services and GIZ for the FF and EWS needs of the Drin Riparians. Any direct access should be sought directly from the GIZ and Hydrometeorological services.

implemented and plan for their inclusion/mainstreaming into the national policies. Synergies between flood/energy/agriculture would be described as well as opportunities and gaps identified for their further alignment. Part of the policies can be mainstreaming guidelines, technical protocols etc.

40. The outputs of the work of the consultant will be discussed within the EWG on floods on various stages of development and will seek final approval from the EWG on floods. More information on the role of the DCG and the EWG in the preparation of sectoral policies is provided in the EWG on Floods Strategy and the Working Plan available to the consultant as supporting document as listed in Annex I.
41. The development of the sectoral policies should be participatory engaging as appropriate all relevant stakeholders. A number of stakeholders are engaged in implementing existing national flood management policies; effort should be put to ensure engagement stakeholders and practitioners from the agricultural and energy sectors. A stakeholders mapping for the Drin Basin is available and listed in supporting documentation under Annex I.

More specific description of the work requirements is provided in the sections below.

## Tasks:

### TASK 1: Prepare for development of the Sectoral policies, data collection and processing

42. The Consultant is required to:

- a) review national policies documents in relation to Hydropower and Agriculture (In each of the Drin Riparians) to identify any flood related provisions/consideration including any related instruments and tools that might be available in that regard. .
- b) assess availability of and quality of the: available maps for flood prone areas<sup>12</sup> in the Drin basin; available information on agriculture and hydropower in the Drin riparians from existing documents<sup>13</sup>.
- c) assess availability and quality of existing of tools<sup>14</sup> that can be used for identifying and quantifying climate change impact on hydropower and agriculture in flood prone areas of the Drin River basin (see task 2 for more details). The consultant is be required to assess existing outputs developed under AF project for their usability for required climate change (CC) impact assessments. Different tools are referenced in Annex I literature for such assessment. The Consultant can opt to use globally available CC tools or to build a new one -only if the first are assessed as not applicable/usable<sup>15</sup> for successful competition of the tasks.

43. Design methodology(ies) for development of Tasks 2 and 3 including missing data collection methods and plan. Methodology will clearly indicate data to be collected, data collection methods and data processing tools to be used - for prior validation as indicated in Schedule of payment section (Table 2).

44. Develop consultation plan with clear indication of stakeholders to be consulted, resource to be used and timeframe.

45. **Deliverables:**

D1. Inception report *with policy review findings<sup>16</sup>, methodology and data collection and consultation plan*

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<sup>12</sup> Return period of such maps would be agreed in discussion with project Chef Technical Advisor (CTA) (after review of available documentation by the consultant).

<sup>13</sup> National polices and data bases, Annex I documents, publicly available datasheets/bases i.e., CORINE etc.

<sup>14</sup> GIS based modeling, HEC-RAS, Phanta Rhei, OSeMOSYS, climate change Global Circulation Models (GCMs). etc.

<sup>15</sup> After approval of the GWP Med Project Manager (PM) and CTA

<sup>16</sup> Policy reviewed will be listed in Annex of Inception report.

## TASK 2: Develop two technical studies on climate change impacts on energy (hydropower) and agriculture in the flood prone areas of the Drin River basin

46. Based on the results of Task 1 and adopted methodology, the consultant will do an in-depth technical analysis of the two sectors linkages with floods that duly take into consideration the climate change impacts (see para 37). The sectoral studies (Agriculture and Hydropower) need to cover three fields of interactions (each): 1. Flood risk effects, 2. Flood mitigation potential and 3. Climate change resilience.
47. For Agricultural sector this study can include (inter alia):
- Spatially overlapping of agricultural land and flooded areas.
  - Classification of the agricultural land<sup>17</sup> use and agricultural practice in those areas
  - Quantifying impact of floods to current agricultural practices/economies (i.e., changes in economic value of the crops used/affected)
  - Identification of the settlements/population and farmers directly affected in the areas.
  - Potential of the agricultural areas for the development of flood mitigation measures. Status and usage of the agriculture water management infrastructure<sup>18</sup> for flood risk management
  - Prioritization of the most affected areas based on criteria to be developed by the consultants.
  - Identifying and quantifying impact of climate change<sup>19</sup> to agriculture in selected areas (flood climate change effects have already been considered in provided flood risk maps)
  - The appropriate public role in developing and promoting risk management instruments must be carefully determined.
48. For Energy (Hydropower) sector this study can include (inter alia):
- Spatial overlapping of the critical infrastructure<sup>20</sup> and flooded areas under different flood risk scenarios (taking into account models developed or collected under AF project)
  - Estimation of the resilience and risk for damage and economic losses for the critical infrastructures including disruption of daily economic activity from the floods
  - Analysis of the current level of use as well as the potential of using the hydropower reservoirs<sup>21</sup> in the Drin basin for multiple purposes notably for flood control.
  - Analysis of the role of hydropower reservoirs in relation to flood risk management.

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<sup>17</sup> By crop produced and possibly other factors (where data can be obtained) such as economical and natural importance, erosion risk, permeability level, etc.

<sup>18</sup> For irrigation and/or drainage

<sup>19</sup> By using tools (model) selected under Task 1

<sup>20</sup> Including dams, reservoirs, sub-stations and transmission lines

<sup>F</sup>Findings for reservoir needs to be presented separately.

- Estimations of the risk and effects on critical infrastructure and use of reservoirs from climate change
49. National sector decision makers and relevant stakeholders will be consulted on the findings of two technical studies and **their comments and recommendations** will be taken into consideration for the formulation of the final drafts. Meetings with the Expert Working Group on Floods will be used in this regard.
50. Based on the results of the Task 1 and Task 2 the Consultant will make draft outline of the two sectoral policies that would be used for the consultation process with EWG on Floods and the project team.
51. **Deliverables:**
- D2. Technical study on climate change impacts on energy (hydropower) sector in flood prone areas of the Drin Basin
  - D3. Technical study on climate change impacts on agriculture in flood prone areas of the Drin Basin
  - D4: Outline of the two sectoral policies

### **TASK 3: Develop sectoral FRM policies and any necessary enabling guidelines and/or tools for sectors of Agriculture and Energy (Hydropower)**

52. Based on the results of the Tasks 1 & 2 the Consultant will develop (at least two) climate resilient sectoral flood risk management policies in the Drin Basin for Agriculture and Energy
53. This would be achieved by considering Integrated flood risk management as an interdisciplinary approach. In this respect the policies should include a broad range of structural and non-structural measures to reduce flood risks. Results of this assignment would feed national policies but also the Drin Basin Flood risk Management Strategy and the Action Plan <sup>22</sup>, particularly its list of priority measures.
54. Each policy would need to present (inter alia):
- Relevant summarized findings from Tasks 1 and 2
  - Site specific technical recommendations to build climate change resilient flood prone sectoral measures.
  - Policy recommendation and roadmap/measures for an efficient mainstreaming of content of the Drin Basin level policies into the relevant National policies

It is expected that level of details of the recommendations, proposals and draft policies etc.is such that will enable the mainstreaming of the Drin Basin policies to national level

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<sup>22</sup> Currently under development by the other Consultancy

policies without the need for additional studies to define manner/methodology, steps, timeline, and places of focus in relation to the application of recommended measures.

55. For the Agricultural sector, such recommendation may include climate change resilient shifts in agriculture cultivation patterns that can substantially contribute to flood risk mitigation by reduction of the surface runoff and maintaining infiltration capacity of the soil (increasing retention capacities) or/and shift to more climate change and flood resilient crops (make room for rivers) etc. It is expected that, location dependent mix of construction (in relation to the existing drainage and irrigation infrastructure) and non-construction measures (change in crops, afforestation, etc.) would be proposed.
56. For the Energy sector (Hydropower) it is expected that such recommendation can be provided with the aim to introduce climate change resilience into existing and new infrastructures by: a) providing respective measures for protecting critical infrastructure in flood prone areas and b) providing proposals regarding the design of new facilities and assets with future climate hazards in mind and by retrofitting existing assets to withstand increased forces or climate change effects and increase their effects for flood mitigation.
57. The sectoral policies will follow the outline developed in Task 2 and should include in addition necessary enabling guidelines and/or tools to facilitate successful mainstreaming into national policies.

In that regard, and based on the analysis of the national related policies, the consultant should also assess the “maturity” of the national policy framework for enabling integration between the two sectors and flood risk management efforts for the achievement of IFRM. The consultant should identify which national policies should be further developed/updated to achieve effective implementation of the new sectoral policies at Drin Basin level. The consultant should also identify the extent to which the national policies should be developed/updated and develop roadmaps and/or guidelines for the necessary further development/update of effective implementation of new policies.

58. Some or part of this roadmaps and/or guidelines should be based also on the technical experience from/results of Task 2 as methodologies for incorporating climate-change responsive flood risk considerations into risk assessments, strategies, policies and plans for the energy and agriculture sectors needs to be developed and codified (if possible).
59. **Deliverables:**

- D5. Climate change resilient sectoral flood risk management policy on agriculture in the Drin Basin
- D6. Climate change resilient sectoral FRM policy on hydropower in the Drin Basin



## SCHEDULE OF ACTIVITIES AND MILESTONES

Table 1: Schedule of activities and timeline

Task	Deliverables	Maximum deadline After date of contract signing:
<b>TASK 1: Prepare for development of the Sectoral policies, data collection and processing</b>	D1. Inception report with policy review findings, methodology and data collection and consultation plan	2 months
<b>TASK 2: Develop two technical studies on climate change impacts on energy (hydropower) and agriculture in the flood prone areas of the Drin River basin</b>	D2. Technical study on climate change impacts on the energy (hydropower) in flood prone areas of the Drin Basin	5 months
	D3. Technical study on climate change impacts on the agriculture in flood prone areas of the Drin Basin	
	D4: Draft Outline of the two sectoral policies	6 months
<b>TASK 3: Develop sectoral FRM policies and any necessary enabling guidelines and/or tools for sectors of Agriculture and Energy (Hydropower)</b>	D5. Climate change resilient sectoral FRM policy on agriculture in the Drin Basin	12 months
	D6. Climate change resilient sectoral FRM policy on hydropower in the Drin Basin	12 months

## Contract Price

60. The maximum available budget for this contract is **87.500 USD**, including VAT.

This amount includes all other costs, income taxes and any other amount payable or cost that may be required for the completion of the work/service. Traveling costs for the missions should be also included in the budget and will not be covered extra.

## Duration of the Contract

61. The overall duration of the contract will be maximum 12 months.



## Schedule of Payments

62. All payments shall be upon reception and acceptance/verification of the deliverables, as laid out in the table below.

Table 2: Schedule of payments

Deliverable	Verification	Payment	Scheduled
D0. Draft Inception report with policy review findings, methodology and data collection and consultation plan	Accepted by GWP-Med Project Manager	Tranche 1 (20%)	June 2023
D1. Final Inception report with policy review findings, methodology and data collection and consultation plan  D2. Technical study on climate change impacts on the energy (hydropower) in flood prone areas of the Drin Basin  D3. Technical study on climate change impacts on the agriculture in flood prone areas of the Drin Basin  D4: Draft Outline of the two sectoral policies	Accepted by GWP-Med Project Manager	Tranche 2 (40 %)	October 2023
D5. Climate change resilient sector FRM policy on agriculture in the Drin Basin  D6. Climate change resilient sector FRM policy on hydropower policy in the Drin Basin	Accepted by GWP-Med Project Manager	Tranche 3 – Final Payment (40 %)	May 2024

## Awarding Criterion and Evaluation Process

63. The Award criterion is the most economically advantageous tender based on best price / quality ratio.

64. The proposers shall pass through two stages of evaluation, the first stage is their evaluation according to the On/Off disqualification and selection criteria. Those successfully passing through this first stage will be Qualified and eligible to continue in the second stage of evaluation based on the Award Criteria.

## Disqualification criteria ON/OFF

65. For details on the ON/OFF disqualification please refer to the Call for Offers

## Selection criteria ON/OFF

66. Participants must provide proof of their average annual turnover for the last three (3) fiscal years being at least equivalent to the maximum amount of this Call. The applicant should provide the Financial Statements (Income Statement and Balance Sheet) of the last three years duly certified by a Public Accountant, and with authentication of receiving by the Government's Internal Revenue Authority. Include any indication of credit rating, industry rating, etc.
67. Participants must be enrolled in one of the official professional or trade register kept in their country of registration.
68. Participants must present a minimum duration of operation of ten (10) years. Proof to be provided by the related chamber (date of registration).
69. **Failure to comply with the above ON/OFF requirements and provide relevant proof with the application is considered ground for exclusion.**

## Award criteria to be evaluated.

70. Participants in the call are required to have solid experience in developing and managing complex projects in the field related to the tasks described in the ToR. This needs to be demonstrated in the Technical Offer to be submitted as part of the application. A template for the Technical Offer form is as Annex 3
71. The Technical Offer Form consists of the following sections:
- Section 1: Expertise and work experience
  - Section 2: Approach and Methodology
- Section 1 Expertise and work experience will be evaluated based on the following requirements
- Section 2 Approach and Methodology will be evaluated based on the length, detail, depth, and structure of the information provided.

## Minimum Qualification and Experience Requirements for Section 1

72. **The scope of work requires an interdisciplinary team of skilled experts** with previous experience in activities similar to those that this assignment entails, e.g., development of the flood risk policies. Proposed team members should possess previous experience and excellent relevant technical and drafting skills in order to successfully implement the assignment. In this context, team of experts should be able to respond to the requirements of several **mandatory areas of expertise** described in Table 1 below (*The inclusion of experts so as the team responds to every area of expertise defined in the table below is mandatory. If the qualification of an expert covers the requirements of more than one area of expertise, that expert can be also proposed for these other areas. Failure to provide relevant expertise for any of the proposed areas is considered a ground for disqualification*).

73. The requirements presented in Table 1 are the minimum requested. Qualifications additional to the minimum requested per category will receive additional score under the evaluation process.

Table 3: Minimum requirement for key team members

	Team members and/or areas of expertise	Qualifications	Workload (Envisaged in expert-days)
1.	Key expert 1: Team Leader – Flood risk management expert	<ul style="list-style-type: none"> <li>○ University degree (BSc or equivalent) in relevant field (Environmental Law, Water resources management, Natural resource management, Environmental management, Hydrology, Hydro engineering, Civil or Environmental engineering, and/or related fields or similar) (in case of a more general first University degree discipline, Master or equivalent degree closely related to the scope of the work)-required.</li> <li>○ At least 15 years of demonstrable relevant working experience in similar tasks and studies and a proven track record of management experience in projects with multidisciplinary teams related to flood risk/water management -required.</li> <li>○ At least 7 years of experience in flood related policy development Minimum three projects implemented with the scope on FRM policy analyses/development in last 10 years (preferably in sectors of Agriculture and Energy) -required.</li> <li>○ Minimum two years of experience in working with the Drin riparian countries on water/flood related issues desired.</li> <li>○ Fluency in both written and spoken English - required.</li> <li>○ Experience of 1 project in involving stakeholders in the integrated water and flood risk management process desired.</li> <li>○</li> </ul>	50
2.	Key expert 2: Renewable energy sources expert (with extended experience in policy analysis/development)	<ul style="list-style-type: none"> <li>○ University degree (BSc or equivalent) in Renewable Energy, Energy engineering, Engineering, Physics, Energetics, Water resource management, Natural resource management, Environmental engineering, or equivalent - required.</li> <li>○ At least 5 years of demonstrable experience and a proven track record related to analyses and development of renewable energy sector-required.</li> <li>○ Experience in development of the energy policies (at least 1 in 10 years) – required.</li> <li>○ Fluency in both written and spoken English - required.</li> <li>○ Experience of 1 project in working in the region of the project is highly desirable and is an asset- desired.</li> </ul>	25

		<ul style="list-style-type: none"> <li>o Experience of 1 project in flood risk management – desired</li> <li>o Knowledge of one of the three Drin riparian languages - desired</li> </ul>	
3.	Key expert 3: Agricultural (land use) expert (with extended experience in policy analysis/development)	<ul style="list-style-type: none"> <li>o University degree (BSc or equivalent) in Agriculture, Forestry, Water resource management, Natural resource management, Environmental management, , or equivalent - required.</li> <li>o At least 5 years of demonstrable experience and a proven track record related to analyses and development of agriculture or land use sector- required.</li> <li>o Experience in development of the Agricultural policies (at least 1 in last 10 years) – required.</li> <li>o Fluency in both written and spoken English - required.</li> <li>o Experience of 1 project in working in the region of the project is highly desirable and is an asset- desired.</li> <li>o Experience of 1 project in flood risk management – desired</li> <li>o Knowledge of one of the three Drin riparian languages - desired</li> </ul>	25
	Climate change expertise and local expertise (knowledge of the three Drin riparian languages: North Macedonian, Albanian, Montenegrin (Serbian, Bosnian, Croatian)	<ul style="list-style-type: none"> <li>o Needs to be clearly presented in Approach and Methodology and will be evaluated separately (see evaluation process below)</li> </ul>	

#### NOTES:

- There is no limitation on the number of experts per area of expertise, but only the lead expert per area of expertise will be evaluated according to the detailed evaluation / scoring. Thus, please indicate the lead expert for each area of expertise.
- If the qualification of an expert covers the requirements of more than one area of expertise, that expert can be also proposed for these other areas.
- The number of planned man-days per expert/area of expertise need to be indicated in the Participant’s proposal. The estimated number of required expert-days per area of expertise should be indicated in methodology.
- **Failure to cover all areas of expertise is considered grounds for disqualification.**
- **The Participant should demonstrate ability to cooperate with local authorities for the collection of data by means of including in the synthesis of the team experts from Albania, Montenegro and North Macedonia. These experts may or may not be key expert per area of expertise.**

## Evaluation process

74. Offers qualified in terms of exclusion grounds and selection criteria will be further evaluated on the basis of the requirements presented under section “Award Criteria”, as follows:

(1) Criterion	(2) Weighting (w)	(3) Points of criterion (c)	(4) Score= (2) x (3)
<b>Section 1: Expertise and work experience</b>	<b>70 % of total</b>		

Participants are required to have a record of minimum 3 projects over the last 10 years of comparable nature and degree of complexity (e.g., development of flood risk polices, management plans and/or strategies at national and/or basin scale).	20%		
<b>Key expert 1: Team Leader – Flood risk management expert</b>	<b>30%</b>		
University degree (BSc or equivalent) in relevant field (Environmental Law, Water resources management, Natural resource management, Environmental management, Hydrology, Hydro engineering, Civil or Environmental engineering, and/or related fields or similar) (in case of a more general first University degree discipline, Master or equivalent degree closely related to the scope of the work)- <b>required.</b>	3%		
At least 15 years of demonstrable relevant working experience in similar tasks and studies and a proven track record of management experience in projects with multidisciplinary teams related to flood risk/water management - <b>required.</b>	10%		
At least 7 years of experience in flood related policy development with minimum three projects implemented with the scope on FRM policy analyses/development in last 10 years (preferably in sectors of Agriculture and Energy) - <b>required</b>	10 %		
Minimum two years of experience in working with the Drin riparian countries on water/flood related issues- <b>desired</b>	2 %		
Fluency in both written and spoken English - <b>required</b>	2%		
Experience of 1 project in involving stakeholders in the integrated water and flood risk management process – at least one year - <b>desired</b>	3 %		
<b>Key expert 2: Renewable energy sources expert (with extended experience in policy analysis/development)</b>	<b>20 %</b>		
University degree (BSc or equivalent) in Renewable Energy, Energy engineering, Engineering, Physics, Energetics, Water resource management, Natural resource management, Environmental engineering, or equivalent - required	3 %		
At least 5 years of demonstrable experience and a proven track record related to analyses and development of renewable energy sector- <b>required.</b>	7%		
Experience in development of the energy policies (at least 1 in last 10 years) – <b>required.</b>	2%		
Fluency in both written and spoken English	2%		

- <b>required.</b>			
Experience of 1 project in working in the region of the project is highly desirable and is an asset- <b>desired.</b>	2%		
Experience of 1 project in flood risk management – <b>desired</b>	2%		
Knowledge of one of the three Drin riparian languages - <b>desired</b>	2%		
<b>Key expert 3: Agricultural (land use) expert (with extended experience in policy analysis/development)</b>	20 %		
University degree (BSc or equivalent) in Agriculture, Forestry, Water resource management, Natural resource management, Environmental management, or equivalent - <b>required.</b>	3%		
At least 5 years of demonstrable experience and a proven track record related to analyses and development of agriculture or land use sector- <b>required.</b>	7%		
Experience in development of the Agricultural policies (at least 1 in last 10 years) – <b>required.</b>	2%		
Fluency in both written and spoken English - <b>required</b>	2%		
Experience of 1 project in working in the region of the project is highly desirable and is an asset- <b>desired</b>	2%		
Experience of 1 project in flood risk management – <b>desired</b>	2%		
Knowledge of one of the three Drin riparian languages - <b>desired</b>	2%		
<b>Section 2: Approach and Methodology</b>	30 % of total		
Approach to the requested Assignment: detailed description of the methodology how the Participant will achieve all objectives and tasks and deliver all outputs as described in the Terms of Reference of the assignment, keeping in mind the appropriateness to local conditions.	10 %		
Climate change expertise and local expertise (knowledge of the three Drin riparian languages: North Macedonian, Albanian, Montenegrin (Serbian, Bosnian, Croatian) is presented - <b>required.</b>	20 %		

Scoring for each evaluation criteria starts from 100 points (when minimum requirements are met) up until maximum 150 points (100p Base +10p for extra criteria over base up to 50 additional points) .

For Criterion – Expertise and work experience: For Section 1 score starts at 100 points (when minimum requirements are met) and can reach 150 points depending on the description of the participant and the number of projects implemented in excess of those required as a minimum. (100p Base +10p for extra criteria over base up to 50 additional points)

For Criterion – Approach and Methodology: For Section 2, score starts at 100 points and can reach 150 points depending on the length, detail, depth, and structure of the information provided.

Each Section/evaluation criterion is evaluated autonomously.

The final scoring of each evaluation criterion is the outcome of its scoring multiplied by the corresponding weighting factor.

The overall score of the technical offer is the sum of the final scoring of all the Sections/evaluation criteria.

The overall score of the technical offer is calculated on the basis of the following formula:  $B_i = w_1 \times c_1 + w_2 \times c_2 + \dots$ . For the overall score which will determine the ranking of offers, technical evaluation will be weighted with 80%, and the financial offer with 20%.

The final listing of the most advantageous offers will be made on the basis of the following formula:  $\Lambda_i = 0.8 * (B_i/B_{max}) + 0.2 * (K_{min}/K_i)$ .

Where:

$B_{max}$ : the max score received by the best of the technical offers received

$B_i$ : the score of the technical offer

$K_{min}$ : The cost of the financial offer with the minimum price offered.

$K_i$ : The cost of the financial offer

The most advantageous offers is the one with the greater value of  $\Lambda$ .

In case of equality of overall scores, the winning proposal is the one whose corresponding technical proposal received the highest rating.

## Terms and Conditions

### Language

75. The language of the required deliverables/outputs is English; executive summaries of the final products should be translated in the languages of the beneficiary countries. All produced documents shall be subject to proofreading by qualified personnel, while the quality of the final versions is subject to approval by the project manager.

### Legal requirements

76. The content of the requested documents shall conform to the pertaining relevant legislation of the respective countries and to the international best practices and models.

## Sources of data

77. All necessary data shall be collected by the Consultant. The Consultant shall also be responsible for identifying and collecting additional information necessary for implementing the assignment. The AF project will support the Consultant and the experts in the data and info collection process by providing data at its disposal and by enabling communication with relevant national authorities -should be necessary.

## Review and quality assurance

78. Review of the work carried out by the Consultant throughout the implementation of the assignment as well as review of the deliverables listed in Paragraph 86 may be carried out by an independent external expert or expert team, including: the AF project CTA, Expert Working Group and the Drin Core Group and should be finally approved by GWP-Med contract manager

79. All relevant comments and suggestions made by the reviewer(s) will be documented by the consultant and must be taken into consideration by the Consultant and integrated in the final versions of the deliverables.

## Duration of the assignment

80. The expected duration of this assignment is 12 months

## Methodology

81. Interested bidders must develop and include as part of their offer/proposal a methodology describing all the steps which will lead to the successful completion of all tasks. Besides the detailed elaboration of the company's approach in fulfilling the requirements of the TOR, the technical offer/proposal should provide information on the name of expert(s) per area of expertise and the total number of man-days for each expert allocated for each area of expertise.

## Reporting requirements

82. The expert team will report to the contract manager from GWP-Med.



## Submission of data, reports and other material produced

83. All primary data, reports, other documentation, and the GIS files produced during this assignment shall be made available to contract manager in electronic format. All data acquired and products developed during the assignment will be in the ownership of the AF project and cannot be used by the Contractor and its team without prior written permission.

## Public consultations / meetings

84. The responsibility for organizing workshops, public participation and consultation or working meetings will be shared between the Consultant and the Drin Project. The Consultant shall be responsible for finding and financing venue (should one not offered free of charge by the Drin riparian institutions) and necessary equipment (shell be needed), preparation of working material invitations, agenda, technical specifications etc. ensuring participation of the key team members as required, preparation of minutes etc. The GWP-Med will be responsible for: distributing the invitations and enabling participation.

## Payment schedule

85. The payment will be processed in instalments based on the milestones defined in the contract and in accordance with the schedule of payment section or if necessary accepted changes based on the company's proposed methodology and approach.

## Annex I: List of background documents

### Outputs of the AF project (2022):

#### **1. High resolution flood hazard inundation maps for the Drin Basin**

Suitable for use in land use planning, development zoning, flood risk mitigation design, establishment of flood insurance criteria, raising public awareness, and emergency planning. These definitive basin hazard maps will be produced for a number of different return periods and for a range of climate change scenarios and will be the basis of climate risk information for use on climate risk management of the basin. The work will cover all the APSFRs in the Crn Drim sub-basin in North Macedonia (with the high-resolution DEM obtained by LiDAR technology) and the APSFRs in the Drin sub-basin in Albania as selected by national authorities<sup>23</sup>

#### **2. GIS-based basin-wide socio-economic risk model**

GIS-based basin-wide socio-economic risk model which will integrate various spatial socio-economic data with the flood hazard maps, performs vulnerability assessment, and produce high-resolution vulnerability maps which will include damages losses, and loss of life estimates for floods of different return period. The model will enable damage and loss modelling, impact-based flood forecasting, cost-benefit analysis, and the appraisal of FRM interventions based on cost-benefit analysis, and development of financing mechanisms for long-term FRM. Using the GIS-based risk model, the project will complete a cost-benefit options analysis for the Drin basin, to identify options that maximise benefits.

Chatterton John, 2022: Results of the Socio-economic Risk Model to support the detailed engineering design of structural measures.

#### **3. Draft Strategy for Flood Risk Management in the Drin River Basin: prepared by Mr. Herve Bousquet (AF Project CTA)**

#### **4. Background report and review of the legislative and policy framework in Integrated Flood Risk Management (IFRM) in the Drin basin**

#### **5. Capacity assessment (functional, resourcing, technical and financial) report with the long-term Institutional capacity development plan**

#### **6. Drin basin policy IRFM recommendations with outline of the selected DRB polices**

#### **7. Strategy and Work program for the EWG on Floods**

#### **8. Basin flood risk financing and risk transfer strategy (under development)**

### Other documents:

#### **9. Socio-economic thematic report – for the Drin Basin (2020)**

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<sup>23</sup> The rest of the APSFRs in Albania and Montenegro have been treated GIZ “Climate Change Adaptation through Flood Risk Management, Western Balkans” and EU IPA “Support to Implementation and Monitoring of Water Management in Montenegro” projects

In addition, it is expected that during implementation of the assignment the flowing deliverables or its parts (currently under development) from the AF FRM Project might be available to the consultant (depending on the time harmonization of activities achieved) to complement above provided information:

**10. MoU for the Management of the Extended Transboundary Drin Basin (2011)**

**11. Flood Insurance in the areas of Skadar/Shkoder Lake-Buna/Bojana River, and Struga in Ohrid Lake-Outputs developed under the GEF Drin project (2021)**

2. Report on data availability and quality, characterization of the socio-economic status of the communities and their vulnerability to flood

3.1 Report on Flood vulnerability, flood damages and losses in the study areas

3.2 Feasibility studies into various types of ex-ante flood insurance including indemnity and index-based flood insurance schemes for Drin Basin and cost-benefit analysis of flood insurance for Drin Basin

4.1 Existing Flood-related Disaster Risk Management Legislative and Policy Frameworks and Financing Mechanisms

4.2 Existing and indicative insurance products for ex-ante risk management

4.3 Report of results of the willingness to pay surveys and recommendations for the flood product/insurance scheme as well as the willingness to pay of households, business sector, public sector, and agricultural households.

5. Report of private sector willingness to contribute to flood risk management activities and to contribute to/subsidise flood insurance

**12. Preliminary Flood Risk Assessment for the Drin/Drim – Buna/Bojana River Basin, GIZ (2018)**

**13. [Flood Risk Management plan for Shkoder region, GIZ, June 2015](#)**

**14. Nexus Assessment for the Drin River Basin, GWP-MED & ADA, 2022**