



Enabling
& Transboundary Cooperation
& Integrated Water Resources Management
in the extended **DRIN RIVER BASIN**



Terms of Reference for a Pilot Project: Flood insurance in the areas of Skadar/Shkoder Lake – Buna/Bojana River, and Struga in Ohrid Lake

In the framework of:

Memorandum of Understanding
for the Management of the Extended Transboundary Drin Basin

GEF Project “Enabling Transboundary Cooperation and Integrated Water
Resources Management in the Extended Drin River Basin”

September 2019

The Coordinated Action for the implementation of the Memorandum of Understanding for the management of the Drin basin (Drin CORDA) is supported by the GEF Drin Project. The latter is implemented by the United Nations Development Programme (UNDP) and executed by the Global Water Partnership (GWP) through GWP-Mediterranean (GWP-Med), in cooperation with the United Nations Economic Commission for Europe (UNECE). GWP-Med serves as the Secretariat of the Drin Core Group, the multilateral body responsible for the implementation of the Memorandum of Understanding.

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Introduction - The Drin Memorandum of Understanding

1. 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 i.e. Albania, North Macedonia, Greece, Kosovo and Montenegro. This was the outcome of the Drin Dialogue coordinated by the Global Water Partnership Mediterranean (GWP-Med) and UNECE.
2. 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”*.
3. The **ultimate goal** of the work in the Drin Basin is to reach a point in the future where the scale of management lifts from single water bodies to the hydrological interconnected system of the Drin Basin, eventually leading from the sharing of waters among Riparians and conflicting uses, to the sharing of benefits among stakeholders.

The Drin Coordinated Action

4. A process called the “Drin CORDA”, Drin Coordinated Action for the implementation of the Drin MoU, was put in place after the signing of the latter.
5. 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 management EWG (established in 2019).

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.

6. An Action Plan was prepared to operationalize the Drin CORDA. This has been subject to updates and amendments in accordance with the decisions of the Meeting of the Parties to the Drin MoU and the DCG. The DCG and its Secretariat guides the implementation of the action plan while its implementation is currently being supported by the Global Environment Facility¹ (GEF); see below.

The GEF Drin Project

7. The GEF supported Project “Enabling transboundary cooperation and integrated water resources management in the extended Drin River Basin” (GEF Drin Project) is aligned in content, aims and objectives with the Action Plan and the activities under the Drin CORDA.

¹ www.thegef.org

8. The objective of the project is to *promote joint management of the shared water resources of the transboundary Drin River Basin, including coordination mechanisms among the various sub-basin joint commissions and committees*. Albania, North Macedonia and Montenegro are the Project beneficiaries.
9. The GEF Drin project is structured around five components:
 - a. Component 1: Consolidating a common knowledge base
 - b. Component 2: Building the foundation for multi-country cooperation
 - c. Component 3: Institutional strengthening for Integrated River Basin Management (IRBM)
 - d. Component 4: Demonstration of technologies and practices for IWRM and ecosystem management
 - e. Component 5: Stakeholder Involvement, Gender Mainstreaming and Communication Strategies
10. The Project is implemented by UNDP and executed by the Global Water Partnership (GWP) through GWP-Mediterranean (GWP-Med) in cooperation with the United Nations Economic Commission for Europe (UNECE); GWP-Med is responsible for the realization of the Project. The Drin Core Group is the Steering Committee (SC) of the Project.
11. It is managed by a Project Coordination Unit (PCU), based in Tirana, Albania; staff is stationed also in Podgorica, Ohrid, Pristina, and Athens. The duration of the Project is four years.

B. Background:

12. The Drin River Basin (DRB) is a transboundary river basin, which is home to 1.6 Million people and extends across Albania (30% of basin area, 27% of total country area, 37% of basin population), Kosovo (23% of basin area, 42% of total country area, and 35% of basin population), North Macedonia (17% of basin area, 13% of total country area, and 11% of basin population), Montenegro (22% of basin area, 32% of total country area, and 17% of basin population) and Greece.
13. Climate change and climate variability have been increasing the frequency, intensity and impact of flooding in the basin. Historical flood data from the Western Balkans suggests a more frequent occurrence of flood events, 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. Future climate scenarios project a further increase in the likelihood of floods as well as in their destructive nature.
14. Skadar/Shkoder Lake and Buna/Bojana areas which straddles Montenegro and Albania is at high risk of flooding. Intensive precipitation and snow melting in the northern part of Moraca basin, combined with high tide in Buna/Bojana river due to the strong south wind and high discharge of Drin resulted in the increase of the water level in Skadar/Shkoder Lake (10.44 m a.s.l.) in December 2010 and extensive flooding in Albania and Montenegro.
15. The December 2010 flood resulted in unprecedented water levels, extent of flooded areas and damages. The total country-wide damages and losses in Montenegro exceeded € 40 million (1.3% of GDP), impacting largely rural areas. Transport routes, electricity supply and communication lines between the northern region and the rest of the country were obstructed for a certain period of

time and 1.5% of the population had to be evacuated. Flood damages in areas Golubovci and Tuzi to the north of Skadar/Shkoder Lake reached an amount of ~2.14 million euros (1.462.500 euros on construction objects and 682,800 euros in agricultural crops). An assessment undertaken by FAO of the 2010 floods, estimated that around 30 000 hectares of agricultural land was flooded. The most affected was the area around the Zeta river valley and the area around Lake Skadar, specifically the territory of Golubovci, where most of the national vegetable production occurs.

16. Heavy rains also resulted in flooding in the Skadar/Shkoder in January 2010. In Albania, the flooding of January 2010 in the district of Shkodra was at the time considered the biggest emergency event which inundated 10,400 ha of land; about 2500 houses and 4800 people were evacuated. As a result of increasing rainfall, the Drin river flow rapidly increased the water level in three hydropower reservoirs, which were forced to release water, increasing discharge to 2450 cubic metres per second into the Buna/Bojana River which has a maximum capacity of only 1600 cubic metres per second. The Albanian government declared the flood a "natural disaster" and deployed the army and police forces to help evacuate people.
17. Significant floods frequently occur in the Ohrid coastal zone (in the area where the Black River outflows; it is part of the Black Drin Basin) in North Macedonia, which results in economic damages and losses; the area is important from ecological and tourism point of view. For managing the water level fluctuation and controlling the flooding of this coastal area, a regulating gate has been established at the Black Drin river outflow in Struga.
18. A key potential policy to be considered by riparian countries will be risk transfer mechanisms including the development of a risk-based flood insurance. To this end it would also be important to identify appropriate regional insurance schemes/products such as Europa Re that could provide the coverage for the basin.

A key consideration is the willingness/ability of individuals to pay premiums, the mechanisms for collection of premiums, and who pays (i.e. whether only those at direct risk pay, or whether everyone pays (solidarity)). In terms of who pays, a further consideration is the willingness/ability of government/donors to contribute to premiums as a means of replacing any existing requirement to provide compensation/relief after flood events. If compensation/relief is traditionally inadequate and highly ineffective, then the approach of providing a financial framework such as flood insurance, for accessing compensation which will also act as a means of influencing choices when engaging in economic activities in the floodplain may be appropriate. The combination of an insurance scheme with a robust development zoning regulatory framework will improve its chances of success in the long-term.

19. Long-term flood risk financing is also a key sustainability issue which needs to be addressed in the riparian countries, as part of the future implementation of integrated flood risk management at the basin scale. Hence the ability and willingness of private sector to contribute to the effective long-term management of flood risk management and reduction should also be considered.

Objective of this assignment

20. The overall objective of this project is to assess the feasibility of introducing flood/natural disasters insurance as one of a suite of flood risk transfer mechanisms for the basin, by undertaking studies in pilot areas which are among those at highest risk of flooding in the Drin Basin i.e. the Skadar/Shkoder and Buna/Bojana, and Struga areas. *The feasibility assessment will include:*

- a. Socio-economic modelling of flood damage and loss under baseline conditions, based on existing hazard data, socio-economic data, damage and loss data collected from previous events, and indicative predicted damage and loss;
- b. The outline design of a risk-based flood insurance scheme including risk-based premiums and pay outs, and the identification of existing insurance products that will meet the insurance needs. *The feasibility assessment will culminate in:*
- c. A detailed survey on willingness to pay for flood insurance, based on an analysis of possible products for covering flood risks that can be offered on insurance market as well as willingness of households, businesses, public sector and agricultural holdings to pay for these insurance products and;
- d. Clear recommendations on what would be required to fully develop and implement a flood insurance scheme for the whole Drin Basin.
- e. A willingness to pay assessment covering the private sector to identify potential partners who could be engaged in financing of flood risk reduction in the future.

Approach and Tasks

21. The Study Areas are: (i) area under flood risk extending at the sub-basins of Skadar/Shkoder Lake and Buna/Bojana River in Albania and Montenegro, and; (ii) Struga area under flood risk extending at the sub-basins of Ohrid Lake and Black Drin River in North Macedonia. Albania, Montenegro and North Macedonia are the beneficiary riparian countries of this Pilot project. The boundaries of the areas will be depicted in maps prepared by the Consultant during the inception period (see Phase 1 under Tasks below) and agreed with the PCU GEF Drin PCU (Project Coordination Unit of the Drin Project)².
22. The feasibility assessment will be guided by the Drin Core Group. Two Advisory Boards will be established, one for each study area, comprising of representatives of competent institutions, local authorities and stakeholders. The membership will be decided by the competent ministries of the beneficiary countries in cooperation with the PCU. The latter will be technically guiding the implementation of the Pilot project.
23. The selected consultant (Consultant) will present progress reports and outputs every three months to the PCU. The meetings of the Advisory Boards will be organized by the Consultant every three months, under the guidance of the PCU. Related expenses will be covered by the Consultant as part of the assignment and related contract described herein.
24. The Consultant shall seek the adoption of the recommendations on what would be required to fully develop and implement a flood insurance scheme for the whole Drin Basin by the responsible Ministries in riparian countries.
25. The work under the current assignment should take into consideration the international obligations of the countries, the developmental plans of the national governments.
26. The Consultant is expected to utilise/develop appropriate socio-economic models to model the socio-economic risk and vulnerability of the study areas, ensuring that the model can be extended to the rest of the Drin basin in the future.

² Already available results from Preliminary Flood Risk Assessment undertaken as part of the ongoing GIZ assistance to governments of the Riparian countries in flood management as well as under UNDP North Macedonia related project for the Struga area will be used in this regard.

27. The Consultant is expected to identify the most appropriate type of flood insurance schemes/products that would be appropriate for each study area, each riparian and the basin as a whole, based on relevant exposure, as well as social and development factors.
28. It is key to take into account that rural women in the area of focus are often excluded from decision-making processes related to basin/land/water management in general although they work and manage resources along-side men. This culture upholds by both men and women but leads to a high risk if less informed decisions do not take women's priorities, needs or e.g. business ideas, into account. Involving women of different age groups is key to ensure a broad buy-in and efficient implementation of the measures to be developed under this assignment. It will be a requirement, that the Consultant seek, wherever feasible, a broad inclusion. In this regard, the consultative process for undertaking the willingness to pay surveys should ensure equal participation of men and women; one of the means to achieve this would be the organization of meetings in hours that women are available while the methodology to be used should be such that will allow everybody to be the opportunity to actively participate and be heard.
29. The process for undertaking willingness to pay studies is expected to be highly participatory. The groups of stakeholders, the active participation of which should be pursued, should include but not restricted to the following: national and local institutions and authorities in the field of the management of environment, water, natural resources, land, local authorities, developmental ministries, local communities, NGOs, private sector, academia etc. The following consultation workshops is expected to be organized:
 - i. One inception workshop in each of the Study Areas involving stakeholders from riparian countries.
 - ii. A set of focus groups meetings in a number of cities/villages, to geographically cover the total of two study areas as detailed in the list of tasks below.
30. Under the supervision of the GEF Drin PCU and the responsible Project Officer(s), as well as regular coordination/communication with multiple stakeholders, the Consultant shall be responsible for carrying out the all tasks listed in phases 1-5 below.
31. The expected duration of this assignment is 1 year.

32. TASKS

The following five phases need to be completed (***IMPORTANT NOTE: The Consultant may adjust their approach under each phase and present it as part of their proposed methodology. The list of actions presented below under each phase is not exhaustive and Consultant should suggest any amendments to the suggested list of actions within their proposed methodology.***)

Phase 1. Inception phase

- 1.1. Develop/identify scope, method and tools for undertaking willingness to pay (WTP) surveys for flood insurance and private sector risk financing in the two study areas.
- 1.2. Identify data requirements and availability for implementing the Pilot project. An assessment of information and data availability should be undertaken leading to the identification of data gaps, including for the socio-economic vulnerability characterization of the study areas (see Phase 2 below). Description for the collection of additional information and data related to floods hazards/ risk / etc. (e.g. preliminary flood risk assessment and flood hazard information and maps) is

included in this ToR under Phases 2 and 3 (see below). The Consultant should select an appropriate timeframe in the framework of the Pilot Project implementation and related sequence of actions to perform the information and data availability assessment and collection, that best serves the implementation of the Pilot Project (e.g. the Consultant could choose to collect all necessary information during the inception phase).

- 1.3. Identified data and information gaps, including for the socio-economic vulnerability characterization of the study areas, will be presented to the Drin PCU and the national authorities. The Consultant will be required to suggest an approach -to be agreed with the PCU- to address these gaps and to this end, will develop methods and tools for undertaking necessary surveys to collect needed information for successfully implementing the Pilot Project. The suggested data collection approach should reflect the timeline of the Pilot Project, enabling gaps to be addressed and conclusions reflected in the study areas characterization.
- 1.4. The Consultant will be responsible to collect -including through surveys- the needed additional socio-economic data and information. Terms of Reference for the engagement of local Consultants/institutes to implement the surveys will be prepared by the Consultant and agreed with the PCU.
- 1.5. The PCU will enable communication with the authorities for the latter to assist if appropriate in the collection of available and needed -additional- information and data.
- 1.6. An Inception Report will be prepared by the Consultant including: Detailed Methodology for implementing the Pilot project; detailed work plan with timeline; detailed list of planned activities and consultation meetings; detailed plan, methods, tools and proposal for undertaking socio-economic surveys to collect necessary information to fully map the socio-economic conditions and flood vulnerability, and willingness to pay surveys; detailed list of deliverables.
- 1.7. The Inception Report will be communicated to the PCU which reviews this along with the competent Ministries and using input from the Advisory Boards.
- 1.8. An Inception meeting -stakeholders from riparian countries should participate- in each of the two Study areas will be used to present the Inception Report.

Phase 2. Data collection and analysis of existing conditions

Tasks under 2.1 could be performed as part of the Inception Phase (Phase 1)

- 2.1 **Data collection** based on review of **existing** (historical) documents and field visits, and a possible supplementary data collection/survey programme (to be proposed – see points 1.2-1.5 Phase1). Data to include, but not limited to:

- Household demographics and employment – sex, age, education level, male/female headed household, number of household members, number of employed household members, under 15 years, over 60 years, income
- House/property conditions – rented/owned, house type (Permanent, Semi-permanent, Impermanent), construction type (foundation type), distance from river - location (coordinates)
- Household Income by type – Crops, Livestock, non-agriculture

- Actual exposure to and perception of flood risk – actual and experienced frequency of flooding, maximum inundation levels
- Flood-risk coping strategies and perceptions – compensation received after floods, households borrowing to recover from floods, money or goods received from different sources after flooding (government/charity/NGO etc.), households' satisfaction with current level of protection against annual flood events, households that have had to evacuate due to flooding, households perception of increased flood risk in the past 10 to 20 years, households perception of whether extreme floods will increase in the future

Collected data shall be combined using GIS spatial analysis, to develop a series of maps (in accordance to the existing legislation and international models/guidelines – for e.g. INSPIRE directive, WFD and Floods Directive). **Prepare a preliminary report on data availability and analysis of existing socio-economic vulnerability** for the study area.

2.2 Based on the results from the preliminary data availability analysis and proposal for necessary surveys, **undertake socio-economic and vulnerability field/household surveys** to fully characterise the study areas' socio-economic conditions (see also point 1.4 above).

2.3 Prepare final report on existing socio-economic and vulnerability data availability and quality as well as a report on characterization of the socio-economic status of the communities and their flood vulnerability.

Phase 3: Socio-economic vulnerability assessment and characterisation of study areas

- 3.1 Collect and review all existing hazard data for Skadar/Shkoder and Bojana-Buna, and Struga study areas (maps etc.; Preliminary Flood Risk Assessment of the basin has been undertaken as part of the ongoing GIZ assistance to governments of the Riparian countries in flood management as well as under UNDP North Macedonia related project for the Struga area). The Consultant will develop a methodology for combining the hazard data with socio-economic data and prepare a report on the proposed **methodology for the modelling and assessment of flood vulnerability, damages and losses in the study areas**.
- 3.2 The Consultant will develop a GIS-based tool to integrate various spatial socio-economic data with the flood hazard maps, perform vulnerability assessment, produce risk and vulnerability maps which will include damages and losses, and loss of life estimates. The GIS-based tool will be provided as a deliverable of the assignment and will include all data, databases, model files, input and output files in an appropriate format.
- 3.3 Using the GIS-based socio-economic vulnerability assessment tool the Consultant will undertake socio-economic risk, vulnerability and damages modelling and assessment to fully map vulnerability and damages within the Skadar/Shkoder and Bojana-Buna, and Struga study areas. The Consultant will prepare a report on flood vulnerability, flood damages and losses in the study areas.
- 3.4 Undertake feasibility studies into various types of ex-ante flood insurance including indemnity and index-based flood insurance schemes, including a cost/benefit analysis of flood insurance. The Consultant will prepare a report on the feasibility of introducing various types of ex-ante flood insurance including indemnity and index-based flood insurance schemes for Drin Basin and a cost-benefit analysis of flood insurance for Drin Basin.

Phase 4: Willingness to pay survey of outline flood insurance scheme

- 4.1 Analyse recent catastrophe risk management approaches with focus to the consequences of catastrophic flooding in the Skadar/Shkoder and Bojana-Buna, and Struga study areas and the measures taken from the governments, local societies, financial institutions, international society. Identify and quantify financial risk management instruments currently applied in riparian countries.
- 4.2 Review of the insurance sector in the study area with regard to availability of flood insurance in each riparian country. Review the legislative and policy framework for flood insurance in all riparian countries.
- 4.3 Identify and characterise existing insurance products or develop indicative insurance products that can be offered for ex-ante risk management.
- 4.4 Undertake focus group research involving 10-15 insurance experts in order to consult on and improve existing/draft indicative products that would be subject of willingness to pay survey.
- 4.5 Undertake focus groups research with representative households on possible flood insurance products to consult on and improve existing/draft indicative products that would be subject of willingness to pay survey. The focus groups members should be selected in accordance to geographical and risk exposure diversity of the participants.
- 4.6 Based on the results of the households focus groups, conduct a preliminary concept testing of the flood insurance products. Conduct the survey of willingness to pay for proposed flood insurance products using the questionnaire prepared on the basis of insurers and households focus groups outputs. The survey should be conducted by appropriate methods (e.g. telephone, e-mails, household surveys) on the sample consisting of minimum 1,000 households, in each study area, selected in accordance to geographical and risk exposure diversity of the participants.
- 4.7 Undertake research in at least 5 focus groups consisting of 10-15 representatives of business sector in the group with discussion about possible flood insurance scheme. The focus groups members should be selected in accordance to geographical, sectorial and risk exposure diversity of the participants.
- 4.8 Based on the results of the business sector focus groups, conduct a preliminary concept testing of the flood insurance scheme. Conduct the survey of willingness to pay for proposed flood insurance scheme using the questionnaire prepared on the basis of insurers and business sector focus groups outputs. The survey should be conducted on-line supported by telephone and e-mails on the sample consisted of minimum 150 business sector subjects, in each study area, selected in accordance to geographical, sectorial and risk exposure diversity of the participants.
- 4.9 Undertake research in at least 3 focus groups consisting of 10-15 representatives of public sector in the group with discussion about possible flood insurance scheme. The focus groups members should be selected in accordance to geographical, sectorial and risk exposure diversity of the participants.
- 4.10 Based on the results of the public sector focus groups, conduct a preliminary concept testing of the flood insurance scheme. Conduct the survey of willingness to pay for proposed flood insurance scheme using the questionnaire prepared on the basis of insurers and public sector focus groups outputs. The survey should be conducted on-line supported by telephone and e-mails on the

sample consisted of minimum 50 public sector subjects, in each study area, selected in accordance to geographical, sectorial and risk exposure diversity of the participants.

- 4.11 Undertake research in at least 4 focus groups consisting of 10-15 representatives of agricultural households in the group with discussion about possible flood insurance scheme. The focus groups members should be selected in accordance to geographical and risk exposure diversity of the participants.
- 4.12 Based on the results of the agricultural household focus groups, conduct a preliminary concept testing of the flood insurance scheme. Conduct the survey of willingness to pay for proposed flood insurance scheme using the questionnaire prepared on the basis of insurers and agricultural household focus groups outputs. The survey should be conducted by telephone and e-mails on the sample consisted of minimum 250 agricultural household subjects, in each study area, selected in accordance to geographical and risk exposure diversity of the participants.
- 4.13 The Consultant will prepare summary reports on all analysis of the results of the focus groups research and WTP surveys and provide willingness to pay reports for all sectors assessed.
- 4.14 The Consultant will prepare a Final report on the analysis of the results of the research by focus groups and WTP 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.

Phase 5: Private Sector Willingness to contribute to/subsidise flood insurance

- 5.1 Identify key private/productive sector players (e.g. HPP, agricultural producers, tourism partners) who can be engaged in flood risk reduction and identify the key drivers and approaches for engagement of the private/productive sector in flood risk reduction in Drin basin. The Consultant will prepare a report on the identification of key private/productive sector players.
- 5.2 Develop and implement surveys to examine private sector willingness to support authorities with the challenging task of providing sufficient risk reduction on the community level, and conditions of cooperation. Identify which Flood Risk Management activities they would have a willingness to contribute to (e.g. structural defences, non-structural measures such as catchment management, hydrometric monitoring, flood insurance).
- 5.3 Conduct focus group workshops with key private/productive sector players (e.g. associations) as well as key informant interviews (e.g. policy makers) to: 1) raise awareness of flood risk impact to specific sectors; 2) understand and characterise the current flood risk reduction measures/activities for their firm and the communities within which they operate; 3) sensitize firms about key approaches to flood risk management; 4) identify potential risk reduction financing involvement of the private sector; 5) identify and develop the most appropriate survey method and questionnaires for a survey on the willingness of the Private Sector players to contribute to/subsidise flood insurance. The Consultant will prepare a report on the analysis of the results of the research by focus groups and surveys of private sector contributors.
- 5.4 Develop survey methodology and material to examine the willingness of sector players to contribute to/subsidise flood insurance based on realistic scenarios and pricing of products. The Consultant will prepare a report on survey methodology and material to examine the willingness

of private/productive sector players to contribute to flood insurance based on realistic scenarios and pricing of products.

5.5 Conduct private/productive sector surveys and undertake feasibility assessment of key private/productive sector players to determine their interest in contributing to/subsidising flood insurance.

5.6 The Consultant will prepare a Feasibility Report on Private Sector willingness to contribute to/subsidise flood risk reduction financing and flood risk reduction financing mechanisms.

33. Main Outputs

- i. Inception Report (in English)
- ii. Terms of Reference to be used for the Consultant to contract local institutes to implement the collection of socio-economic vulnerability data for the study areas and to conduct household WTP surveys, including detailed plan, methods, tools for the study areas
- iii. Inception meeting in each of the study area
- iv. Progress and other short reports as required (in English only)
- v. Consultation meetings and related reports
- vi. Report: Data availability and quality analysis report
- vii. Report: Characterization of the socio-economic status of the communities and their flood vulnerability based.
- viii. Report: Methodology for the modelling and assessment of flood vulnerability, damages and losses in study area.
- ix. Deliverable: GIS-based modelling tool for flood damage and loss calculation and vulnerability mapping.
- x. Report: Flood vulnerability, flood damages and losses in the study areas
- xi. Report: 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
- xii. Report: Existing disaster risk and recovery legislative and policy frameworks, and existing instruments/methods of disaster risk and recovery financing in riparian countries, focusing on flood risk.
- xiii. Report: Existing insurance products and proposed/ indicative insurance products that can be offered for ex-ante risk management;
- xiv. Report: Final report on the analysis of the results of the research by focus groups and WTP 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;
- xv. Report: Identification of key private/productive sector players
- xvi. Report: Analysis of the results of the research by focus groups and surveys – Private sector contributors;
- xvii. Report: Survey methodology and material to examine the willingness of private/productive sector players to contribute to flood insurance based on realistic scenarios and pricing of products;
- xviii. Report: Feasibility Report on Private Sector willingness to contribute to/subsidise flood risk reduction financing and flood risk reduction financing mechanisms

Qualification Requirements

34. a. **Participants are required to have** extensive experience in developing and managing complex projects in the area of watershed flood risk management or environmental economics or environment or sustainable development. Participants are required to have a record of minimum 5 projects over the last 10 years of comparable nature and degree of complexity (e.g. environmental economics assessment, damage and loss assessment, development of climate risk transfer and risk financing instruments, willingness to pay surveys, development of climate risk insurance products; the list is not exhaustive).

A list of projects must be submitted, including the name of the project, the end client(s), the budget of the project and its duration, along with contact details for reference checking purposes (please indicate the e-mail addresses of contact persons). In so listing the end clients, the Participant is giving a consent to the Contracting Authority, to contact the relevant clients for reference checking purposes (concerns points a.& b.).

b. **The scope of work requires an interdisciplinary team of skilled experts** with previous experience in similar environmental economics assessment, damage and loss assessment, development of climate risk transfer and risk financing instruments, and conduct of willingness to pay surveys, environmental/watershed/flood risk management projects etc. Team members should possess excellent relevant technical and drafting skills in order to successfully implement the assignment. In this context, the team of experts should be able to respond to the requirements of a number of **mandatory areas of expertise** described in Table 1 below (*The inclusion of experts able to respond to every area of expertise defined in the table below is mandatory. Failure to provide relevant expertise for any of the proposed areas is considered a ground for disqualification*).

c. In addition, Participants may propose -as they deem appropriate- additional experts covering other specific areas of expertise, e.g. stakeholders' participation and consultation; gender analysis and mainstreaming etc.

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 1

	Team members and/or areas of expertise	Qualification requirements	Workload (in expert-days)
1.	Team Leader	<ul style="list-style-type: none"> ○ Advanced university degree (MSc or equivalent) in relevant field (Environmental Economics, Finance, Business Administration, International Development, 	

		<p>Social Science and/or related fields or similar), PhD will be considered a strong asset.</p> <ul style="list-style-type: none"> ○ Minimum 10 years of professional experience in similar assignments. ○ ○ Experience from at least 3 projects in designing and undertaking willingness to pay studies. ○ Experience as a team leader from at least 3 relevant projects (environmental economics assessment, development of climate risk transfer and risk financing instruments, and conduct of willingness to pay surveys, environmental/watershed flood risk management projects) of comparable nature and degree of complexity. Knowledge of the Balkan socio-economic context would be an asset. 	
	2. Insurance Expert	<ul style="list-style-type: none"> ○ Advanced university degree (MSc or equivalent) in the field of economics or related field. PhD will be considered an asset. ○ At least 10 years of international professional or academic experience in the field of risk management, insurance and actuarial profession. ○ Knowledge on insurance products and insurance markets review; experience from at least 3 projects. ○ Experience from at least 3 projects in preparation of willingness to pay studies in climate risk transfer, and in undertaking feasibility studies. ○ Knowledge of the institutional and legal environment for insurance market in the Balkans would be an asset. 	
	3. Flood Management Expert	<ul style="list-style-type: none"> ○ Advanced university degree (MSc or equivalent) in civil/hydraulic engineering, hydrology, hydrogeology, flood risk management. ○ Relevant experience / assignments that involve floods / hydraulic modelling, flood risk management planning projects (minimum 3 projects required). ○ Experience from at least 3 projects in undertaking flood risk and vulnerability assessments. 	
	4. Environmental Economics Expert	<ul style="list-style-type: none"> ○ University degree in Environmental management, Economics, Engineering or similar. ○ Minimum 10 years of professional experience in economic and social policies development, regional/sectoral economics and sustainability, economic forecasts, capital markets, local financing, willingness-to-pay / willingness-to-accept analyses, economic valuation studies, complex feasibility studies or similar. ○ Experience from at least 3 relevant projects in economic impact analysis and appraisal of flood impacts, natural resources policies and flood management intervention. 	

5.	Database and GIS management Expert	<ul style="list-style-type: none"> ○ University degree in engineering, computer science, geospatial sciences or similar. ○ At least 5 years of professional experience from (at least 3 projects) projects/assignments as a GIS/database management expert. ○ Experience from at least 3 projects in developing of bespoke GIS-based models. 	
6.	Socio-economics Survey Expert	<ul style="list-style-type: none"> ○ Advanced university degree (MSc or equivalent) in Economics, Social Science, Development Studies, or related field. ○ At least 4 years of relevant experience in research on the socio-economic development field and/or economic development modelling/related consultancy services. ○ Experience from at least 2 projects in flood risk related socio-economic research including flood economic assessments, socio-economic surveys, human geography, social impact assessments, climate change, and statistical analysis. 	

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 and they must meet the minimum qualification requirements as included in Table 1. Thus, please indicate the lead expert for each area of expertise.
- If the qualifications of a certain expert covers the requirements of more than one area of expertise, that expert can be also proposed for these other areas.
- Additional experts, covering a range of other related expertise considered and justified as necessary by the participant will be evaluated in addition.
- The number of planned man-days per expert/area of expertise need to be indicated and justified in the Participant’s proposal. The estimated number of required expert-days per areas of expertise should be indicated as in the table above.
- **Failure to provide adequate expertise for 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 lead experts per area of expertise.**
-

Terms and Conditions

Language

34. 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 translators, while the quality of the final versions is subject to Drin approval by the PCU.

Legal requirements

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

Sources of data

36. 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 Pilot Project. The GEF Drin PCU 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 as well as with GIZ and UNDP that have been working in the field of Flood risk management in the Study Areas.

Review and quality assurance

37. 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 33 may be carried out by an independent external expert or expert team.
38. Review of the project final deliverables may be carried out by relevant Expert Working Groups of the Drin Core Group.
39. All relevant comments and suggestions made by the reviewer(s) will have to be taken into consideration by the Consultant and integrated in the final versions of the deliverables.

Duration of the assignment

40. Maximum available time for development of the Plan is 1 year upon signing of contract.

Methodology

41. 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

42. The expert team will report to Drin PCU. The Consultant shall submit progress reports in English every three months. In addition, other reports may be suggested by the Consultant depending on the proposed methodology and approach. Also, other reports highlighting certain important issues may be requested by Drin PCU at various stages of work.

Submission of data, reports and other material produced

43. All primary data, reports, and other documentation produced during this assignment shall be made available to Drin PCU in electronic format. All data acquired and products developed during the

assignment will be in the ownership of Drin Project and cannot be used by the Contractor and its team without prior written permission.

44. All data, reports, other documentation and the GIS files produced in electronic format should be compatible to the Drin project database and formats set by the Information Management System - IMS. The PCU will provide related specifications to be used.

Cooperation requirements

45. The Consultant is expected to work closely with other experts, expert teams and possibly the Expert Working Groups within the Drin Process.

Public consultations / meetings

46. The responsibility for organizing workshops and working meetings will be shared between the Consultant and the Drin Project. The Contractor shall be responsible for: preparation of working material invitations, agenda, technical specifications etc. ensuring participation of the key team members as required, preparation of minutes etc. The Drin PCU will be responsible for: distributing the invitations and enabling participation.

Payment schedule

47. The payment will be processed in instalments based on the milestones defined in the contract and in accordance to the company's proposed methodology and approach.

Annex -1: Additional background on flooding in the Skadar/Shkoder and Bojana-Buna area, and Struga areas of the Drin basin

The Drin River a transboundary river in South-eastern Balkan peninsula which is inhabited by over 1.6 million people, living in 1,453 settlements, and encompasses several complex eco-systems that provide unique habitats for many indigenous species important from both European and global conservation perspectives. Besides the three big natural lakes – Prespa, Ohrid and Skadar/Shkoder – the basin includes several large water reservoir cascades along the Black Drin River in North Macedonia and the Drin River in Albania.

Flood risk in riparian countries of the Drin Basin have been an important disaster factor since 2010, the frequency of floods has been observed to be increasing over time. The socio-economic vulnerability is high due to the high (9-21%) poverty rate of the Riparian countries. Poverty and unemployment are particularly widespread in rural and mountainous areas of the basin. Vulnerability factors also include poor urban planning, unsustainable water management and agricultural practices, deforestation, industrial pollution and poor waste management in areas highly exposed to flooding.

Indicative flood risk assessment maps (Figure 2 below) show that, among other areas, there is extensive flooding in the Struga area around Lake Ohrid in North Macedonia, and in the downstream part of the basin, in the Lake Skadar/Shkoder and Buna/Bojana River area, where there is extensive flooding, which affects the concentration of settlements there, in both Albania and Montenegro. This is confirmed by the PFRA maps of historical flooding in the basin.

Struga Area

The Black Drim (Crni Drim) River Basin in North Macedonia, is identified as one of the flood-prone regions of the country, with major floods are recorded in 1962, 1975, 1995 and the most recently in 2010 and 2015. There are number of different sources of flooding in the Crni Drim Basin, including:

- Fluvial flooding from major rivers when run-off from the surrounding area exceeds the flow capacity of the rivers, streams or the artificial drainage system (Crni Drim, Sateska River)
- Torrential foods: combination of high-water discharge and mass movement through the channels of the streams, leading to the transport of large volumes of sediment and debris (Sushicka, Kalishka, Shum, Dzepinka and other torrential rivers).
- Coastal Flooding, in coastal areas of the towns Ohrid and Struga, which happens during extreme weather events and high tides that are causing a rise in lake levels and coastal flooding.
- Groundwater floods especially in the region of Struga (Struga is built on a former wetland/marshland and has high level of underground waters)
- Flooding in urban areas (due to intensive rainfalls)

Studies have shown that floods with medium probability of occurrence in this region can cause damage in the range of over 35 million euros.

- Area affected: 3,550 ha
- Potentially indirectly affected population: 70,000
- Potentially directly affected population: 6,500
- Houses: 2,500
- Road network: more than 40 km
- Hotspots: Landfill site in Struga, and in perspective, the regional landfill in the Municipality of Debarca

- Other objects at risk: possible flooding of central Wastewater Treatment Plant in Vranishta that treats the wastewater from the municipality of Struga and Ohrid, possible flooding of Ohrid international airport, flooding of schools, churches, monuments
- Industrial objects: 40

Skadar/Shkoder Lake and Buna/Bojana River area

Skadar/Shkoder Lake, a Ramsar site, is the largest lake in the Balkan Peninsula with a surface area varying between 370 km² and 530 km². It is one of the largest bird reserves in Europe, having 270 bird species, among which are some of the last pelicans in Europe. The Lake straddles the Albanian/Montenegrin border and results in significant flooding in both countries.

Montenegro

Vulnerability to flooding in Montenegro is due to the location of many towns and settlements on large riverbanks which makes them potentially more vulnerable to the overflow of water from watercourses. Around Skadar/Shkoder Lake and Buna/Bojana River, as well as on the Cetinje and Nikšić plains the large areas of agricultural land, assets and urban zones are susceptible to flooding from all sources, including groundwater. There is frequent flooding in karst fields and in the plains of the Zeta Valley, the area surrounding Skadar Lake, and along the courses of the Bojana and Lim Rivers when levels in Skadar Lake are high.

A total of 20,265 inhabitants in the Ulcinj Municipality, in 39 settlements, 3.21% of the population of Montenegro, in Ulcinj Municipality, Montenegro, large areas of land and private buildings along the Bojana River, are at risk from floods.

In November and December 2010, record-breaking precipitation resulted in record water levels in Lake Skadar and record water levels in the Bojana River and other rivers. In the Lake Skadar, water level reached a record high of 10.44 a.s.l. The most severe damages were suffered by flooded residential houses in the settlements of Lisna Bori, Sukobin, Fraskanjel and Sas, downstream cottages and catering facilities to the river delta and buildings of the company "Ulcinjaska rivijera" at Ada Bojana. In total, approximately 7.4% of Ulcinj Municipality's territory was flooded, where agricultural land, agricultural equipment, plantations (greenhouses) and tangerine plantations were most affected.

Albania

The land of the Lower Drini–Buna River basin is at a very high risk of flooding. The capacity of the Buna River, particularly the reach from the Drini-Buna confluence to Shirqi Village, is insufficient to prevent frequent overtopping of the riverbanks and consequent flooding. The most recent major flood events occurred in January 2010 and again in December 2010 causing major hardship to the local population. The flooding of January 2010 in the district of Shkodra was at the time considered the biggest emergency event to have arisen in the area: 14,100 ha were flooded, 4600 houses were inundated, and 12,150 people evacuated. The direct economic loss to Albania has been estimated as ALL 2.5 billion (EUR 18 million) from the December 2010 event alone, rising to ALL 4.4 billion (EUR 37 million) when indirect losses are accounted for. A World Bank study shows that out-of-bank flow occurs from the Buna on average once every two years, and direct damages caused by flooding rise from ALL 135 million for a 50% likelihood event, up to ALL 5830 million for the 0.1% likelihood event.

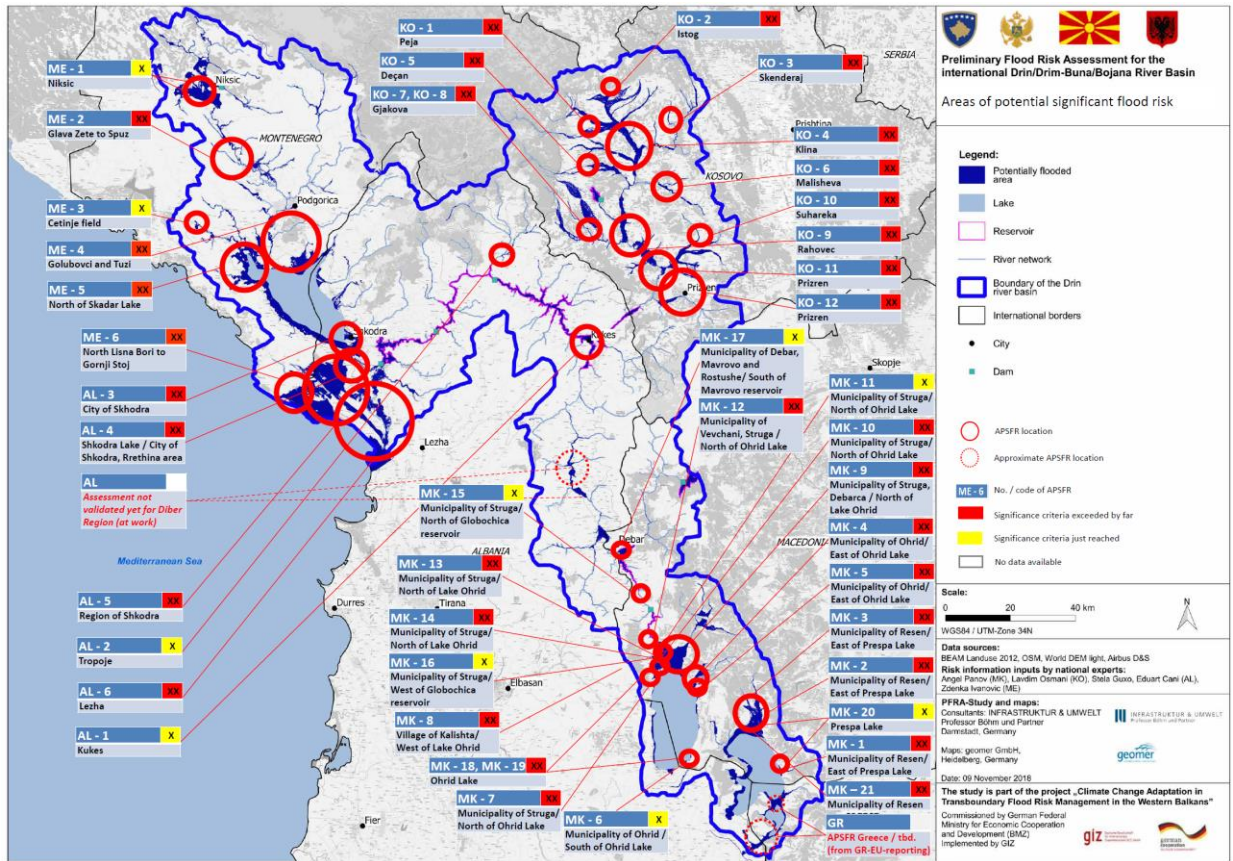


Figure 1: PFRA map of Drin Basin – showing areas of potential significant flood risk