



## TERMS OF REFERENCE

### 1) Background, rationale and goal

As the world's population grows, water is expected to become an even more scarce resource in the future. Holistic approaches are needed in order to tackle the problem of water quality and availability. Forests and forested landscapes are essential for various water-related ecosystem services. Water provision and filtering, conservation of soils and climate regulation are among the many services connected to trees and forests, influenced by the interactions between forests and water. It is estimated that the majority of the freshwater for the world's biggest cities comes from forested catchments and watersheds.

Over the years, the role of forests for water has gained further political attention at an international level. Various United Nations agencies have highlighted water stress as a problem for human health and economic growth, and several international initiatives have helped to place more emphasis on the topic worldwide. The recently agreed 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs) have now set the agenda for addressing forests and water at the global level.

The goal of the GFEP assessment on Forests and Water is to produce a comprehensive assessment of scientific knowledge about the interactions and linkages between forests and water. The Panel will develop a peer-reviewed scientific report and associated policy brief aiming to provide policy makers with a stronger scientific basis for their decisions and policies related to forests and water. The assessment aims to feed into 2030 Agenda for Sustainable Development by connecting SDG 6 on water and SDG 15 on forests, thus illustrating the cross-sectoral contributions of forests to the various SDGs.

### 2) Task

Based on the decision taken at the CPF meeting in Paris on 3 December 2015, the CPF agreed to establish an Expert Panel on Forests and Water in the framework of the GFEP initiative.

Taking into considerations the outcome of the GFEP Scoping Meeting held on 16-17 March 2017 at FAO Headquarters in Rome, Italy, it shall be the task of the Expert Panel to carry out a comprehensive global assessment of available scientific information about the interactions between forests and water, and to prepare a report to inform relevant international policy processes and the discussions on the 2030 Agenda for Sustainable Development and related Sustainable Development Goals.

More specifically, the assessment shall address the following **main thematic aspects**:

- Conceptual background and overview of the topic;
- Factors influencing eco-hydrological processes at regional, landscape and watershed levels;
- Services related to forests and water, including monetary and non-monetary values;
- Management of forests with a water perspective;
- Direct and indirect drivers of change, impacts and trends; and
- Policy context, including governance frameworks, and response options at various levels.

The assessment shall be carried out on the basis of the **draft thematic outline** in Annex I, developed at the GFEP Scoping Meeting. It shall build on existing scientific literature, information and knowledge and shall draw from various fields of science. Based on its assessment, the Expert Panel may also identify priorities for further research.

### **3) Composition**

The Expert Panel consists of up to 30 scientists from various disciplines with recognized expertise in the topics of the assessment as reflected by the annexed outline. Expert Panel Members participate in the Panel in their personal capacity and do not represent any institution or organization.

The Expert Panel Members will be selected by IUFRO as lead agency of GFEP, based on the recommendations of the Scoping Meeting in Rome, Italy. The following general criteria shall be applied when selecting Expert Panel Members: necessary areas of specialization to be covered; regional balance; cultural diversity; and gender balance.

### **4) Modalities of work**

The Expert Panel shall conduct its work independently on the basis of these Terms of Reference. The scientific work of the Expert Panel is overseen by the Panel Chair. The Chair is responsible for coordinating the thematic work of the Panel in carrying out the assessment and preparing the assessment report in an effective and timely manner. The Chair ensures that the Coordinating Lead Authors communicate closely with each other and periodically share drafted sections so that the report will be coherent, consistent, and of the highest possible scientific quality.

The Expert Panel members serve as Coordinating Lead Authors (CLAs) or Lead Authors (LAs) of the assessment report. Depending on their area of specialization and the report's structure, Coordinating Lead Authors are responsible for coordinating broader sections (main thematic areas or chapters) of the assessment report. Lead Authors prepare specific chapter sections of the assessment report. The Panel may enlist other experts as Contributing Authors (CAs) to assist with their work. Contributing Authors are not members of the Expert Panel, but their authorship shall be clearly acknowledged in the assessment report.

The summary for policy makers shall be prepared by the GFEP coordination team in consultation with the Panel Chair and with assistance of communication experts.

The Expert Panel carries out its work through both meetings and electronic communication. The proposed main activities and the associated time schedule are described under item 8 below. The exact dates and mode of panel meetings shall be determined by the GFEP Coordinator and the Chair in consultation with the Expert Panel Members, bearing in mind financial and in-kind resources available from governments and CPF members for purposes of the assessment.

Operational and technical support will be provided by the IUFRO Secretariat as well as, to the extent possible, by CPF Members.

### **5) Sources of information and validation**

The Expert Panel shall utilize the following sources of information in its assessment: (i) published, peer-reviewed scientific literature; (ii) other relevant sources of information, where appropriately documented, including sources of traditional knowledge.

The Expert Panel shall refer to the original literature whenever possible rather than to earlier syntheses, summary documents or similar. Furthermore, the Expert Panel shall make best use of CPF Members as sources of information.

### **6) Peer review**

The assessment report shall be subject to peer review prior to its completion. The purpose of the review is to ensure that the assessment report and its various chapters present a comprehensive, objective and balanced scientific view of the topics and issues covered by the report.

Peer Reviewers shall be selected by the GFEP coordination team, taking into account the selection criteria that also apply to Expert Panel Members. Peer Reviewers shall not be involved in the writing of the assessment report.

Review comments shall be collected by the GFEP coordination team and evaluated by the Expert Panel members. The peer review period shall not be less than four weeks. All review comments shall be provided to the Chair and the Coordinating Lead Authors in writing. The review comments will be shared with the Lead Authors and serve as a basis for revision of the assessment report prior to its publication.

### **7) Outcome and publications**

The assessment report shall be composed of (a) a comprehensive, peer-reviewed full report and (b) a summary for policy makers ('policy brief'). The rules of the CPF for decision making and the use of the CPF logo in publications shall apply.

## 8) Duration of work, main activities and suggested time schedule

The Expert Panel is established for a limited time period. Its work should be initiated as soon as possible and completed on time for consideration at United Nations High Level Political Forum in 2018. The following tentative timetable for the assessment is suggested:

Scoping Meeting of GFEP on Forests and Water (Rome, Italy)	16-17 March 2017
Terms of Reference for the Expert Panel	March 2017
Selecting members of the GFEP Expert Panels on Forests and Water	March/April 2017
1 <sup>st</sup> meeting of the Expert Panel (location TBC)	June 2017
Final detailed chapter outlines	July 2017
First draft manuscripts of chapters	September 2017
2 <sup>nd</sup> meeting of the Expert Panel (location TBC)	October 2017
Final draft of chapters	15 Nov. 2017
Peer review process of chapters	End of Nov. – early January 2017
3 <sup>rd</sup> meeting of the Expert Panel (location TBC)	January 2018
Final revision of the chapters	Deadline: end of February 2018
Editing of the Assessment Report and Policy Brief	March/April 2018
Layout of the Assessment Report and Policy Brief	May 2018
UNFF 13 (New York) – <i>presentation of key findings</i>	May 2018
Printing and shipping of the Report and Policy Brief	June 2018
UN High-Level Political Forum (HLPF 2018) on Sustainable Development 2018 (New York), review of SDGs 6, 7, 11, 12 and 15. - <i>Launch of the report and presentation of results</i>	End of June - July 2018 (TBC)

## 9) Compensation

Travel costs and daily subsistence allowances shall be paid to Expert Panel Members attending Expert Panel Meetings in accordance with UN rules and regulations.

## ANNEX I: DRAFT THEMATIC OUTLINE OF THE ASSESSMENT REPORT

- **INTRODUCTION**
  - Statement on the topic: Why are forest and water interactions important?
  - Rationale and objectives of the report
  - Thematic scope and structure of the report
  
- **CONCEPTUAL BACKGROUND AND OVERVIEW OF THE TOPIC**
  - Diversity of forests and trees in current and future landscapes (including definitions)
  - Typologies of forest-water systems based on a) structure, b) functions
  - Overview of the forest and water interactions
    - Dimensions (water for forests, forests for water, water/forests for people, people for forests/water)
    - Main (eco)-hydrological and forest-related hydrological concepts (including hydrological regimes)
  - Scientific consensus, popular narratives and paradigms of forest-water interactions
  - Conceptual framework and definitions (including temporal and spatial scales)
  
- **FACTORS INFLUENCING ECO-HYDROLOGICAL PROCESSES (At regional, landscape and watershed scales)**
  - Watershed size/area/type
  - Geomorphology
  - Climatic zones and different eco-regions
  - Soil type and condition
  - Forest types and landscape configuration
  - Disturbances (natural and anthropogenic), succession and management-induced vegetation changes
  - Climatic seasonality and variabilities
  
- **SERVICES RELATED TO FORESTS AND WATER, INCLUDING MONETARY AND NON-MONETARY VALUES**
  - Water quantity including temporal considerations
  - Water quality
  - Climate and its regulation
  - Protective roles of forests, e.g. erosion
  - Biological diversity
  - Cultural services (including recreation)
  
- **MANAGEMENT OF FORESTS WITH A WATER PERSPECTIVE**
  - Different objectives for management
    - Managing for provisional reasons (water supply, nexus with energy, food and timber/fiber)
    - Managing forest for their regulative, protective and conservation reasons (quality, protection against natural hazards, protection of infrastructure)

- Approaches and considerations for forest and water management
  - o Scales (spatial)
  - o Forest-related ecosystems and their landscape interlinkages
  - o Institutional, governance and management levels
  - o Different dimensions and perspectives for management: eco-hydrological; social, socio-ecological and cultural (including knowledge, capacity and innovation, public awareness); economic
- Trade-offs and synergies

- **DIRECT AND INDIRECT DRIVERS OF CHANGE, IMPACTS AND TRENDS**

Social, technological, economic, environmental and political drivers, including:

- Climate change
- Land-use change
  - o Restoration, deforestation, afforestation, reforestation, degradation
  - o Development of infrastructure
  - o Economic development
- Technological change
- Commodity markets and demands (energy, food, fiber, water)
- Demographic changes and migration
- Changes in governance frameworks
- Conflicts
- Pollution, pests and diseases
- Societal awareness, values and demands (including knowledge and co-production; data availability; information and media)

- **POLICY CONTEXT, INCLUDING GOVERNANCE FRAMEWORKS, AND RESPONSE OPTIONS AT VARIOUS LEVELS**

- Institutional, legislative and policy frameworks, including
  - o Multi-level governance (international, including international waters; transboundary cooperation; national; local),
  - o Cross-sectoral cooperation
- Actors and their interactions at different levels (including human rights and equity aspects)
- Political discourses
- Policy instruments and approaches, equity aspects and effectiveness, including:
  - o Law enforcement
  - o Financial instruments including market-based mechanisms
  - o Participatory approaches

- **CONCLUSIONS**