GEF Transboundary Waters Assessment Programme (TWAP)

Global Assessment of Transboundary Aquifers and SIDS Groundwater Systems

An Overview for Partners

1. Objectives of TWAP

The transboundary water systems of the world – aquifers, lakes/reservoirs, rivers, large marine ecosystems (LMEs), and open ocean areas – support the socioeconomic development and wellbeing of a major part of the world's population. Governance and management of these systems may be complicated by the fact that they are located in multiple countries. Many of these systems, however, may not be optimally exploited or be degraded by multiple human-induced stresses, and the sustainability of their ecosystem services is at risk in many cases. At the same time, the knowledge about the hydrological or hydrogeological characteristics of these transboundary water systems, as well as their current environmental status is often still incomplete and the root causes of their degradation may not be fully understood.

Recognizing the importance of equitable management of transboundary waters and being aware that a comprehensive global assessment of transboundary waters has never been undertaken, the Global Environment Facility (GEF) has embarked in the global Transboundary Waters Assessment Programme – TWAP in order to fill this gap.

The objective of TWAP is to conduct a global baseline assessment of the status of the five transboundary water systems mentioned above, in cooperation with partner organizations and institutions at the national, regional and global level. It is hoped that this partnership will, beyond the duration of the TWAP project, continue to undertake regular follow-up assessments, in order to be able to identify trends in the environmental status of transboundary water systems as well as the institutional and legal framework set up for their management.

2. TWAP – Assessment of Transboundary Aquifers and SIDS Groundwater Systems

The global inventory of Transboundary Aquifers (TBAs) carried out within the framework of UNESCO's Internationally Shared Aquifer Resources Management (ISARM) initiative has advanced immensely over the last decade. During this time, the contributions from partners including the Worldwide Hydrogeological Mapping and Assessment Programme (WHYMAP), International Groundwater Resources Assessment Centre (IGRAC), the UN World Water Assessment Programme (WWAP), Food and Agriculture Organization of the United Nations (FAO), the Organization of American States (OAS) and many other partner organizations have led to a tremendous advance in data, information and knowledge related to transboundary aquifers globally.

The current state of knowledge on transboundary aquifers, however, still remains limited in comparison with other water systems, due to a number of reasons including restrictions in the application of earth observation technology in the identification of groundwater bodies, and the high cost of collecting data in the subsurface. Also, the central importance of transboundary

groundwater resources has only recently started to be increasingly recognized by policy and decision makers.

In an effort to continue and advance the achievements made in the framework of ISARM, the TWAP Assessment of Transboundary Aquifers will have an important role in compiling and complementing the available information at the global scale. Given the high level of human and ecosystem dependency on groundwater resources in Small Island Developing States (SIDS), the assessment will also encompass aquifers in SIDS.

The TWAP *Global Assessment of Transboundary Aquifers and SIDS Groundwater Systems* will focus on indicators, in order to guide the data collection effort and to allow for comparability and trend analyses. For this purpose, a methodology for the TWAP Assessment of Transboundary Aquifers has been developed by a group of international experts under the coordination of UNESCO-IHP, cutting across all relevant scientific disciplines (natural and social sciences), and with the contribution of various institutions. The methodology is available for download under

http://twap.iwlearn.org/publications/databases/volume-2-methodology-for-the-assessment-of-transboundary-aquifers

3. Partnership arrangements for the execution of the assessment

A global partnership of national, regional and international players involved in Transboundary Aquifers (TBA) assessment and management is now being established for the execution of the Transboundary Aquifers and SIDS assessment – the **Groundwater Coalition.**

The Groundwater Coalition will consist of three categories of partners based on their specific roles and functions:

(i) The Core Group, consisting of UNESCO-IHP, IGRAC, FAO, and UN WWAP

(ii) Regional Coordinators and Expert Networks

(iii) Providers of Key Data and Additional Expertise

How do partners benefit from TWAP?

Partners will benefit from the coalition by broadening their knowledge of transboundary aquifer systems, establishing new partnerships and cooperation, and having access to the TWAP data and information management system. Given the objective of TWAP to provide a basis for science-based allocation of financial resources (GEF and other donors) to priority transboundary water systems, countries and regions will benefit from increased transparency in funds allocation.

Role of partners

Partners will have different roles, depending on their specific capacity, and mandate. This can include the provision of existing data, or linking new initiatives and existing expert networks to TWAP. Regional partners may also take a coordinating role in their respective region and could assist with the organization of regional expert meetings.

(i) TWAP Groundwater Core Group

The Core Group, consisting of global players in the field of transboundary groundwater resources assessment and management, has a central role in guiding and coordinating the TWAP Groundwater Coalition to successfully execute the global baseline assessment, as well as the periodic follow-up assessments in the future. It will appoint a Project Manager, establish cooperation schemes and liaise with key partners.

(ii) The Regional Coordinators and Expert Networks

Regional partners will contribute to the assessment with regional coordination mechanisms already in place. They will guide the acquisition of data on transboundary aquifers through regional expert networks and may facilitate the organization of regional expert meetings and workshops. Regional partners may also serve as data providers, having conducted previous studies and/or assessments at regional scale or by providing access to existing data and local information systems. Whenever feasible, the regional coordination and the promotion of country involvement will be entrusted to Regional Organizations such as OAS, UNECE, UNECA, UNESCAP, UNESCWA, UNECLAC, AMCOW, OSS, SPC, ECOWAS, IGAD, SADC and ECCAS, and others.

(iii) Key Data Providers and Providers of Additional Expertise

This category includes organizations operating databases or information systems relevant to TWAP/Groundwater, and those that may provide additional useful information on the subject. This encompasses universities, and research institutes from developing and developed countries, geological surveys, international professional associations, and non-governmental organizations (NGOs), among others. Besides the hydrogeological, technical or environmental expertise, the provision of expertise on socio-economics, legal and institutional issues will be of major important in the framework of The TWAP Transboundary Aquifers and SIDS assessment.

Partners may not pertain to only one of the above mentioned categories but serve as regional partner, provider of expertise and provider of key data at the same time.

Data and Information Management

Data and information on Global Transboundary Aquifers and on Groundwater Systems in SIDS will be solicited through direct contacts with regional and national entities and expert networks, from existing global data sets as well as from hydrological modeling and remote sensing, and will be stored in the ISARM/TWAP web-based Geographic Information System (GIS). The data and information management will be coordinated by IGRAC.