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Review of GEF's Freshwater Portfolio

(Prepared by the Independent Evaluation Office of the GEF)

- Draft Approach Paper -
(as of March 10th)

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Contents

Abbreviations

GEF	Global Environment Facility
IEO	Independent Evaluation Office
IW	International Water
IWRM	Integrated Water Resource Management
SDG	Sustainable Development Goal

I. Background and Context

This knowledge product, drawn from completed and ongoing projects, will take a closer look at the design and performance of freshwater projects in the GEF International Water (IW) Focal Area.

A. Introduction

1. Scarcity and deterioration of freshwater resources have intensified. UNESCO has reported that over 2 billion people live in countries experiencing high water stress, and about 4 billion people experience severe water scarcity during at least one month of the year (UNESCO, 2019). In addition, climate change has been altering the precipitation pattern and intensification, and more floods and droughts are affecting human lives and ecosystems globally.

2. The GEF IW Focal Area has been recognized as an important player in promoting multicountry cooperation over shared marine and freshwater resources and ecosystem, even though the GEF IW focal area does not directly serve any global environment conventions, unlike other focal areas in the GEF (IEO, 2018 b). GEF IW takes a bottom-up approach, such as the initial development of the Transboundary Diagnostic Analysis and Strategic Action Programme, and generates an enabling environment to implement projects based on identified and prioritized issues.

3. Regarding the complexity of IW programme, the evidence from the Independent Evaluation Office (IEO) South China Sea Impact evaluation in the Fourth Overall Performance Sutdy of the GEF, "[The] robust programmatic approaches," are needed to address complex IW geographies and transboundary settings.

4. In addition, the GEF IW focal area serves as a catalyst of integrative science and knowledge management, and provides a systemic view of the many interconnected variables controlling water. However, OPS6 noted the imbalance between marine/ocean and freshwater in the GEF IW portfolio (GEF IEO, 2018b). The evaluation pointed out that a possible reason for this imbalance was the relatively lesser complexity of transboundary settings and short-term economic and social benefits in the marine portfolio.

5. The IEO evaluation also found that the factors influencing the growth of stress reduction[1] projects, as well as the amount of investments that involve more marine projects over foundational [2] and demonstration [3] ones, may call for "measurable" impacts since the measuarable impacts are directly linked to the result framework indicators, while the foundational activiteis are often not to clear set up of indicators or vague target. The evaluation pointed out that the dominance of marine and ocean investments may limit the ability of the

[1] Stress reduction project: Reducing the transboundary stresses to water resources and aquatic ecosystems as part of the systematic implementation of action programs agreed among the countries sharing the water body.
[2] Foundational project: Setting the foundation for action in transboundary waterbodies by creating the enabling conditions for multicountry cooperation around agreed priorities.
[3] Demonstration project: Demonstrating the stress reduction effectiveness of new behaviors and technologies.

focal area to assist countries in facing the challenges posed by the climatic variability and water scarcity affecting more vulnerable populations (GEF IEO, 2018a). Thus, the last IEO study raised a concern about the risk of an imbalanced IW portfolio in contributing to the Sustainable Development Goal (SDG) targets (i.e. SDG 6) of freshwater and oceans. The evaluation thus pointed to the need for a further understanding of the GEF freshwater portfolio, which was not analyzed in depth for OPS6.

B. GEF Strategies Relating to Freshwater

6. Promoting freshwater resource management and related security issues have been addressed in GEF IW. The themes in GEF IW have evolved in response to urgent need, such as the deterioration of water quality and scarcity of water. The fundamental approach in GEF to improve freshwater management is to foster enabling conditions for cooperation through the process of the Transboundary Diagnosis Assessment and Strategic Assessment Programme and its implementation. Evolution of the GEF IW focal area is shown in Annex 1.

7. In the early days of the GEF, the 1995 Operational Strategy for IW stated the four major issues of global concern: (i) quality degradation of transboundary water resources, (ii) degradation of physical habitats, (iii) introduction of nonindigenous species, and (iv) overfishing above the exploitation of freshwater due to inadequate management and control measures. Based on the strategy, the GEF IW program relating to freshwater has been designed to target the specific environmental degradation in water bodies with respect to quality and quantity.

8. GEF-2 and GEF-3 addressed the general cooperation on transboundary waters and focused on preventive interventions. Also, the Integrated Ecosystem Management as Operational Program 12 was adopted. The program was designed as a comprehensive framework to manage natural systems across sectors, as well as political or administrative boundaries within the context of sustainable development. Under the program, the projects were expected to generate synergy between GEF focal areas and land degradation to optimize multiple benefits (GEF, 2000). The expected benefits of the program include (i) conservation and sustainable use of biological diversity and the equitable sharing of benefits arising from the use of biodiversity; (ii) reduction of net emissions and increased storage of greenhouse gases in terrestrial and aquatic ecosystems; (iii) conservation and sustainable use of watersheds; and (iv) prevention of the pollution of globally important terrestrial and aquatic ecosystems.

9. In GEF-4, the GEF Council approved the mandate to use integrated ecosystem-based approaches in the management of transboundary water resources. GEF-4 strategic programs that relate to freshwater serve to balance overusage and conflict usage of freshwater in transboundary settings. This was a turning point in enhancing the impacts of GEF interventions on IW sustainable development aspects, and the trend has remained to date. The findings from earlier IW program evaluations by the GEF monitoring and Evaluation unit in 2004 indicated that many of the tangible outcomes may take a long time to establish. The IW, however, has proved to be an effective instrument for foundational and demonstration activities, and through its catalytic effects, also can be an agent of global or regional change (GEF, 2004).

10. In GEF-5, the GEF IW program focused on enhancing foundational IW activities, such as the collective management of transboundary water systems and the implementation of a full range of policy, legal, and institutional reforms and investments that contribute to the sustainable use and maintenance of ecosystem services, including supportive capacity building.

11. In GEF-6, the program emphasized fostering an enabling environment for freshwater management, such as political commitment, on-the-ground actions, and knowledge sharing. Climate change and water security also were addressed. GEF support was designed to contribute to increased water/food/energy/ecosystem security and to reduce conflict potential within the implementation of the Strategic Action Programme. The conjunctive management of surface water and groundwater also were addressed in program strategies.

12. One of the objectives for freshwater in GEF-7 was the enhancement of water security in freshwater ecosystems. The GEF-7 programming directions in IW stated that cooperation on water is "a must" in most international basins to support the need for water, food, energy, and ecosystem security and to increase resilience for each nation (GEF, 2018). In particular, transboundary cooperation has been anchored in the SDG 6.5 Target, which is to implement integrated water resource management at all levels, including through transboundary cooperation as appropriate.

13. In addition, the role of the private sector to improve freshwater is emphasized in terms of reducing supply chain impacts and supporting innovative approaches and technologies in GEF-7 In addition, elements of water security—such as disaster risk management through cooperation and the trade of energy and food, as well as the sharing of ecosystem services—was added in GEF-7.

C. Integration, Sustainability, and Beyond

14. ***Integration***: Since the GEF-6 Programming Directions, the GEF has had a clearer vision of impact at scale through its Integrated Approach pilots and the Impact Programs in GEF-7. In reviewing the IW methods and components of integration at the project level, integration has been carefully considered and tailored to the environmental issues; however, the mode of integration varies depending on the context. Analyzing the reference to "integrate", integration is reflected in various interventions. For example, the Integrated Natural Resource Management in the Baikal Basin Transboundary Ecosystem project (GEF ID 4029) includes integrated biodiversity conservation standards in the Transboundary Diagnostic Analysis and Strategic Action Programme and in the local legislation, taking into account the surface and groundwater aspects; an assessment of transboundary problems in integrated surface and groundwater resource management; the integrated natural resource management of Baikal Lake Basin and Hovsgol Lake; an integrated approach to planning and mapping, using GIS; and the monitoring of aquatic ecosystem health and biodiversity.

15. Integration in GEF IW is likely to follow in two ways: integration at the geographic scale and interventions that will generate/enhance/maximize the impact effects(Figure 1). The appropriate geographic scope is determined, followed by combinations of interventions that are carefully designed, based on environmental issues that target a project.

16. Another example that includes a combination of interventions is the Reducing Transboundary Degradation in the Kura-Aras Basin project (GEF ID 1375), which addresses multiple issues in the basin, such as quality improvement, water and ecosystem quantities, and the strengthening of governance. In addition, the project aims to improve Caspian Sea water beyond the Kura-Aras basin.

17. In addition, Integrated Water Resource Management (IWRM) [4] and the ecosystem approach[5] have been adopted in GEF IW, and these approaches are carefully designed in terms of the primary activities that target management/policy or environmental protection.[6] IWRM and ecosystem approaches adopt scientific methodologies; however, the ecosystem approach takes a view from a natural system while IWRM is a coordinated process that focuses on economic and social issues and protects ecosystems and ecosystem services. For example, the Integrated Ecosystem Management in the Prespa Lake Basin of Albania, FYR-Macedonia and Greece project (GEF ID 1537) aims to catalyze the adoption and implementation of ecosystem management interventions that integrate ecological, economic, and social goals to conserve globally significant biodiversity, and to conserve and reduce pollution of the transboundary lakes and their contributing waters. For an ecosystem approach in this context, the project analyzed the stress on ecosystem health and its main source and, based on these findings, the project further examined the constraints of adopting integrated ecosystem management, including mainstreaming the health priorities into sector laws and regulatory instruments.

18. This study—building upon IEO's review of its Integrated Approach pilots—will examine whether or not, to achieve integration, the IW programs are crosscutting, synergistic, cost effective, and target the underlying drivers of environmental degradation on a global scale and within priority regions.

19. ***Sustainability***: The GEF IEO defines sustainability as "the likelihood of continuation of project benefits after completion of project implementation. In accordance with GEF IEO's *Guidelines for GEF Agencies in Conducting Terminal Evaluation for Full-Sized Projects*, sustainability is assessed by taking into account the risks related to financial, sociopolitical, institution, and environmental sustainability of project outcomes."

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[4] The Global Water Partnership defines IWRM as "… a process which promotes the coordinated development and management of water, land and related resources in order to maximise economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystem and environment." For more information see www.gwp.org/en/gwp-SAS/ABOUT-GWP-SAS/WHY/About-IWRM/.

[5] The UN Convention on Biological Diversity defines it as "… a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way ..." " … 'Ecosystem' means a dynamic complex of plant, animal and micro-organism communities and their non-living environment interacting as a functional unit." (UN CBD, 2001).

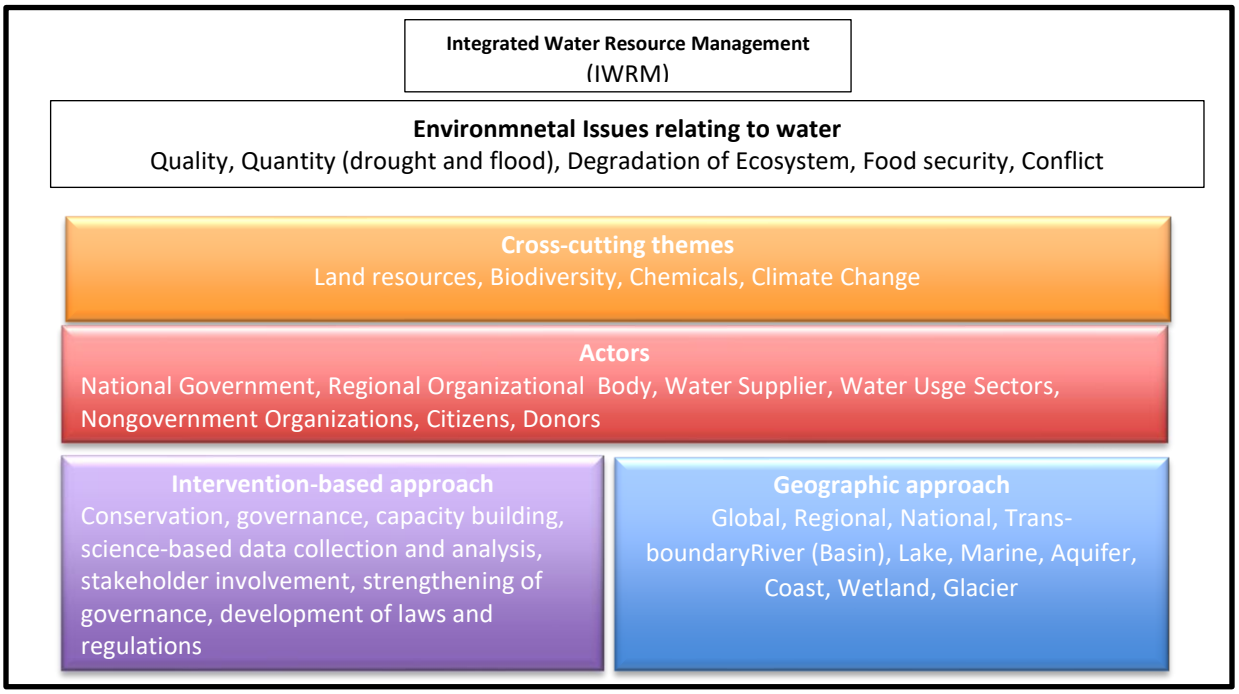
[6] The fact sheet on the USAID-IUCN project, Ecosystem Approach and Intergrated Water Resource Management: Interrelated Approaches, summarizes the approaches for both principles and concludes, "… effective interpretation and implementation of IWRM should also result in effective implementation of the ecosystem approach, and vice versa." For further information, see www.iucn.org/sites/dev/files/content/documents/ecosystem_approach_and_iwrm_fact_sheet_0.pdf.

20. GEF IW has been tackling the complex global environmental problems that require long-term solutions and commitments. The GEF IEO found in OPS3 that while GEF IW plays a significant role in reducing environmental degradation in complex situations, the reversal of environmental degradation in complex transboundary freshwater or marine situations may take decades (OPS3). For example, in longstanding projects or initiatives, such as those relating to the Mediterranean Sea, the process often takes 15-20 years before meaningful commitments can be secured to joint management improvement (GEF, 2002). Real intervention impacts are often detected many years following the completion of projects. To reach the secure status of commitment, GEF IW projects require increased attention to sustainability beyond project implementation.

21. Broader adoption through policy change, scale up, and replication is a key mechanism to generate transformational change and guide project sustainability. In fact, the GEF IEO has found that the projects in the GEF IW portfolio have the highest broad adoption success rate compared to other focal areas (GEF IEO, OPS5). The IW portfolio, through the Transboundary Diagnostic Assessment and Strategic Assessment Programme, has already built in a broader adoption mechanisms to generate impacts in the programme. However, the mechanisms and associated impacts at the project level were not fully addressed in previous evaluations, and will be reviewed in this study.

22. In addition to the sustainability mechanisms, the component of a project and the appropriate scale of intervention are significantly important to achieve outcomes that translate into national and regional legislations and policies in terms of water management.

Figure 1. Integration Approaches for Water Resource Management at the Project Level



II. Purpose and Objective

23. This study will present a step forward, based on the findings of the 2016 IW Study. The purpose of the study is to assess the impacts or progress toward the GEF freshwater portfolio impacts of enhancing the protection of transboundary freshwater ecosystems, and to provide insights for the freshwater portfolio in the IW focal area of GEF-8.

24. There are three complementary objectives: to (i) assess the GEF freshwater approaches and factors that contribute to results; (ii) verify, through a post-completion exercise, whether or not projects are sustaining and fostering global environmental benefits; and (iii) assess, by way of a quality-at-entry review, whether or not recently approved projects are likely to achieve their stated outcomes.

III. Study Questions and Coverage

A. Coverage and Scope

24. This study will cover the GEF freshwater portfolio since its pilot phase. Focus will be placed on freshwater bodies, including watershed(Rivers), lakes, and aquifers of any geographic scale, and the activities relevant to freshwaters. These include projects and programs funded by IW focal and multifocal area projects.

25. For Objective 1 and Objective 2, projects with available Terminal Evaluations as of March 2019 will be used in the analysis. Sixty-three projects are available relating to 37 rivers, 14 lakes, and 12 aquifers. The actual number of projects will be confirmed after reviewing the portfolio. For Objective 3, the portfolio will be generated to complete a quality-at-entry review of the approved projects that have yet to have a mid-term review, mainly relating to GEF-6 and GEF-7 projects.

B. Key Questions

Key Questions for Study	Possible Approaches
Relevance • To what extent are GEF IW freshwater interventions—including those focused on integration—relevant to country and global priorities (e.g., Sustainable Development Goal 6) and do they address transboundary environmental problems?	Document review and interview
Effectiveness • What have been the performance and outcomes of the GEF freshwater portfolio? • What global environmental benefits has GEF's IW Freshwater portfolio generated? How were they generated?	Document review and interview

• What role has innovation played in contributing to the scale up the outcomes and what have been the channels to achieve such scale? • How well are the projects designed to achieve integration and what is the initial evidence? • What have been the impacts of freshwater projects on gender and indigenous peoples?	
Efficiency • To what extent does the integrated nature of GEF freshwater interventions affect the efficiency of projects and in what way?	Document review and interview
Sustainability • To what extent has the design of IW freshwater projects accounted for factors that influence sustainability and the progress toward long-term impacts?	Document review and interview
Impact • Have IW freshwater projects generated indirect/nonwater-related benefits/outcomes? What were the channels?	Document review and interview
Coherence (focus on internal coherence) • To what extent are IW freshwater projects consistent with other agencies initiatives, and national/regional objectives?	Document review and interview

IV. Methodology

26. This study will include the following main elements:

- Literature review and synthesis: The paper related to issues on transboundary freshwater will summarize how GEF interventions contribute to direct benefits and indirect benefits.
- Reconstruction of the typical Theory of Change for each freshwater body (e.g., river, groundwater, lakes) to enable an understanding of the project intervention components and their associated outcomes.
- Key informant interviews: Will include members of the GEF Secretariat, GEF Partner Agencies, GEF Scientific and Technical Advisory Panel, and relevant project managers. Questions to the interviewee will include the aspects of newly introduced IEO frameworks (e.g., additionality, formative and post-completation evaluation)
- Portfolio review: This review component will include terminal evaluations(as of March 2019) and related reviews, mid-term reviews, and the Transboundary Diagnosis Analysis and Strategic Action Programme. The detailed framework for the portfolio review will be designed by developing a portfolio review protocol. This exercise will provide an update on the third IW study conducted in 2016.[7]

[7] GEF's review of IW's focal areas (GEF, 2018a) includes 296 projects and programs since June 30, 2016.

- Post-completion case study: Will include a desk post-completion study. The case will be selected based on criteria, and will apply to those projects approximately three to five years since completion. The study will be conducted in accordance with a post-completion data template designed by IEO.
- Quality-at-entry analysis: Questions will be based on the IEO Formative Evaluation Tool. The portfolio for this will include projects approved by Council, mainly from GEF-6 and GEF-7.

V. Design Limitations

27. Analysis of this study will depend highly on document availability during the portfolio review, which is key for the study. This study also may encounter problems in obtaining accurate information relating to the post-completion case study, since the range is three to five years from project completion.

28. To minimize the limitations of the study, the study will triangulate, to the extent possible, information from various sources (e.g., portfolio reviews, interviews), so as to address any bias resulting from the results.

VI. Quality Assurance

29. The draft approach paper and the report will be circulated and validated before finalization by appointed IEO internal reviewers.

30. The GEF Secretariat and GEF Partner Agencies will take part in assuring the study, if appropriate.

VII. Deliverables and Dissemination

31. The study report will be presented at the June 2020 Council meetings. A four-page summary of the report will be generated and posted on the website. A detailed dissemination plan will be implemented under the IEO knowledge products plan.

IX. Resources

A. Timeline

32. This study, including the preparation stage, will take place between October 2019 and June 2020. The timeline is reflected in Table 1. Work Plan.

Table 1. Work Plan

Period	Activities
October–December 2019	Approach paper development Literature review and synthesis Initial portfolio review
January–June 2020	Preparation of portfolio review protocol Further portfolio review Data analysis Field visits Verification of results Case study analysis
July –August 2020	Preparation of draft paper/finalization of paper
December 2020	Presentation to Council
Januarly 2020	Dissemination of results

B. Budget (Internal)

33. This study is budged at US$8,000, excluding IEO personnel expenses. The budget is earmarked primarily for the post-completion case study.

C. Team

34. The study will be the responsibility of an IEO Task Manager (Senior Evaluation Officer), and will be overseen by the IEO Chief Evaluation Officer and IEO Director. The Task Manager will conduct the study with the assistance of IEO data analysts.

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Annex 1. Issues Addressed in International Waters Focal Area by Global Environment Facility Periods

	GEF1, GEF2, and GEF3 Operational Programs	GEF4 Strategic Programs	GEF5 Strategic Objectives	GEF6 Strategic Program	GEF7 Programming Directions
Ecosystem	Y Degradation of physical habitats, introduction of nonindigenous species disrupting aquatic ecosystems and causing toxic and human health effects Integrated Ecosystem Management (cross-cutting) (OP#12)	Y Restore and sustaine coastal and marine fish stocks and associated biological diversity (Objective 1)	Y Catalyze multi-state cooperation to rebuild large marine eco systems	Y Prevent loss and degradation of coastal habitat (IW3)	Y Sustain healthy coastal and marine ecosystems (Objective 1)
Fisheries	Y Overexploitation of living and nonliving resources (overfishing)	Y Restore and sustain coastal and marine fish stocks and associated biological diversity (Objective 1)	Y Catalyze multi-state cooperation to rebuild marine fisheries and reduce pollution of coasts and large marine ecosystems while considering climatic variability and change (Objective 2)	Y Foster sustainable fisheries (IW3)	Y Catalyze sustainable fisheries management
Quality	Y Contaminant-based program (OP#10) Degradation of the quality of transboundary water resources	Y Reduce nutrient over-enrichment and oxygen depletion from land-based pollution (Objective 2)	Y Transboundary water usage	Y Reduce ocean hypoxia (IW3)	Y Address pollution reduction in marine environments
Quantity	Y	Y	Y	Y	Y

	Overexploitation of living and nonliving resources (overwithdawal)	Balance overuse of water resources	Catalyze multi-state cooperation to balance conflicting water uses in transboundary surface and groundwater basins, while considering climatic variability and change (Objective 1)	Advance conjunctive management of surface and groundwater	Supply chain approaches for increased water efficiency (Objective 3)
Management/ capacity building	Y Integrated land and water multiple focal area program, including SIDS (OP#9)	Y Conflicting uses of water resources in surface and groundwater basin that are transboundary in nature (Objective 3)	Y Support foundational capacity building, portfolio learning, and targeted research needs for ecosystem-based and joint management of transboundary water systems (Objective 3)	Y Advance conjunctive management of surface and groundwater (IW2) Water/food/ energy ecosystem security nexus Y Foster cooperation for sustainable use of transboundary water systems and economic growth (IW1)	Y Improve management in the areas beyond national jurisdiction (Objective 2) Advance information exchange and early warning
Others	Y Waterbody-based program: freshwater and large marine	Y Reduce persistent toxic substance and test adaptive management of waters with melting ice (Objective 4)		Y Increase resilience and flow of ecosystem services in the context of melting high altitude glaciers (IW1)	Y Invest in water, food, energy, and environmental security (Objective 3)