Terms of Reference

Complexity and Evaluation Consultant:

Learning Paper on Complexity Science and Evaluation for Climate Change

Independent Evaluation Unit

I. Introduction to GCF and IEU

The Green Climate Fund (GCF) is a multilateral fund created to make significant and ambitious contributions to the global efforts to combat climate change. The GCF contributes to achieving the objectives of the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement. In the context of sustainable development, the GCF aims to promote a paradigm shift towards low-emission and climate-resilient development pathways by providing support to developing countries to limit or reduce their greenhouse gas emissions and to adapt to climate change, while accounting for their needs and supporting particularly those that are vulnerable to the adverse effects of climate change. The GCF is governed by a Board, composed of an equal number of members from developed and developing countries. It is operated by an independent Secretariat headed by an Executive Director.

The Independent Evaluation Unit (IEU) of the GCF, is mandated by the GCF Board under paragraph 60 of its governing instrument inform its decision making. Specifically, the governing instrument states "… the Board will establish an operationally independent evaluation unit as part of the core structure of the Fund. The head of the unit will be selected by, and will report to, the Board. The frequency and types of evaluation to be conducted will be specified by the unit in agreement with the Board."

The IEU has several objectives:

(a) Informing decision-making by the Board and identifying and disseminating lessons learned, contributing to guiding the GCF and stakeholders as a learning institution, providing strategic guidance;

(b) Conducting periodic independent evaluations of GCF performance to objectively assess the results of the GCF and the effectiveness and efficiency of its activities;

(c) Providing evaluation reports to the Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) and the Paris Agreement for purposes of periodic reviews of the Financial Mechanism.[1]

The IEU has a mandate for both discharging an accountability function and supporting a learning function.[2] These are central to the GCF being a learning organization as laid out in its Governing Instrument and its initial strategic plan.[3] The responsibilities of the IEU are as follows:

(a) Evaluation: The IEU will undertake independent overall, portfolio, country, thematic, programme evaluations that inform GCF strategic result areas.[4] In key cases, it will also support and undertake project evaluations. The IEU will use relevant and innovative methods and an independent peer-review mechanism that will provide guidance on independent evaluations. The vision, criteria and guidelines for these will be laid out in the Independent evaluation policy. The IEU is also mandated to independently peer review and attest the quality of GCF self-evaluation;[5]

(b) Advisory and capacity support: The IEU is required to advise the Board by synthesizing findings and lessons learned from its evaluations. These findings and lessons learned are expected to also inform the Executive Director of the Secretariat and other GCF stakeholders.[6] The IEU will engage closely with the independent evaluation units of intermediaries and implementing entities of the GCF, including national designated authorities (NDAs) and accredited entities (AEs). It will provide support to catalyse learning and build and strengthen NDA and AE evaluation capacity. It will also provide guidelines and support evaluation-related research that helps produce rigorous evidence in GCF result areas;

(c) Learning: The IEU will support the GCF in its learning function by ensuring that recommendations from independent evaluations are incorporated into the Secretariat's functioning and processes.[7] This includes recommending possible improvements to the GCF

[1] The Conference of Parties to the UNFCCC provides the following guidance on the function of the IEU: "The reports of the GCF should include any reports of the independent evaluation unit, including for the purposes of the periodic reviews of the financial mechanism of the Convention" (UNFCCC decision 5/CP19, annex, paragraph 20).
[2] Board document B.16/18.
[3] Annex I to decision B.12/20.
[4] Annex I to decision GCF/B.05/03.
[5] Decisions B.12/12 and 20.
[6] Annex III to decision B.06/09
[7] Syntheses will include not just evidence from GCF funded programmes and policies but also from other agencies that are relevant to the GCF's result areas.

performance indicators and its initial results framework, after accounting for international experience and the results of evaluation;[8]

(d) Engagement: The IEU will actively participate in relevant evaluation networks to ensure that it is at the frontier of evaluation practice. The IEU will involve its own staff and staff from NDAs and AEs in evaluations wherever feasible and appropriate.[9] In addition, the IEU will support knowledge hubs of low-emission and climate-resilient pathways.[10]

II. Aim

The Independent Evaluation Unit (IEU) seeks to commission a learning paper on the topic of complexity science and its applications to climate change and evaluation. This paper will build on existing complexity research in the IEU to delve into more detail about how we might use the complexity science perspective to improve the design and evaluation of GCF projects and programs.

III. Proposed Structure

The proposed structure of the paper is as follows:

(a) **Overview of complexity science theories:** What theories of complexity are at the forefront of research in the field of complexity science today, across disciplines? Which of these are most relevant to climate change projects involving social and ecological systems? These theories could include, but are not limited to, complex adaptive systems, resilience theory, complex physical systems, scaling theory, thresholds/tipping points, network theory, and chaos theory. A special focus will concern how complex systems relate to behavioural science, to understand decision-making in complex settings such as governance, social contracts, climate risk management.

(b) **Sectoral overview as related to complexity science theories:** GCF projects span multiple disciplines, including forestry and land use, agriculture, infrastructure, water systems, planning/governance, rural livelihoods, renewable energy and disaster risk reduction and response. How can complexity science help us to better understand interventions and their impacts in each of these sectors? Which frameworks might be applicable across sectors?

(c) **Implications of complexity science for project design:** How might GCF incorporate an understanding of complexity into the design of new programs? How can program designers and evaluators approach predicting outcomes in systems with nonlinear behaviour?

[8] Annex III to decision B.06/09.
[9] See note 7 above.
[10] Annex I to decision GCF/B.05/03.

(d) **Implications of complexity science for evaluation:** How might evaluators approach understanding the impact of projects which are highly complex? For instance, how might high levels of complexity affect our ability to conduct randomized experiments and other rigorous methods of causal inference? What methods could we employ that embrace complexity and give us a fuller understanding of progress and overall implications of 'highly complex' projects and investments?

(e) **Tools and methods for measuring and evaluating complex interventions:** Research on complexity and evaluation has thus far tended to focus more on qualitative than on quantitative methods. What tools and methodologies, both quantitative and qualitative, are currently being used to evaluate complex projects? Which methodologies have the potential to effectively measure complex interventions? Where are the gaps in knowledge with regard to methodologies for the evaluation of complex interventions? How might we harness emerging fields, such as agent-based modeling and machine learning, to improve our understanding of the impacts of complex projects? How can mixed methods be used to better understand the structure of, and outcomes in, complex systems?

(f) **Future lines of research for complexity, climate change, and evaluation:** After conducting a thorough review of existing literature on the above topics, the researcher should identify gaps in the literature and suggest lines of further inquiry. These findings will lay the groundwork for an extended research program on complexity, including the development of a knowledge synthesis map on theories and research approaches in complexity science.

This learning paper should be well written, displaying insights and the strong understanding of the Green Climate Fund projects and programmes, and should be relevant to climate change overall. It should also show an understanding of methods and practices being currently used for the assessing full costs of projects and 'additionality' of GCF projects and investments. The paper should liberally use examples of the GCF projects and programmes to illustrate problems and solutions regarding complexity. Recommendations should be tailored to the extent possible to the Fund's context. The paper should also acknowledge contributions and discussions with the IEU team and could potentially be co-authored with them.

The scope of this assignment is for one consultant. However, given the interdisciplinary nature of the topic, we appreciate that the consultant may wish to work collaboratively with others. In this case, they may bring on collaborators at their own discretion, but it is the responsibility of the consultant to manage the remuneration of collaborators.

IV. Timeline

The scope of this paper may be modified in discussion with the selected candidate. The timeline for this paper is as follows:

- August 1-August 24, 2018: Initial research and paper outline written by consultant
- August 27-September 21, 2018: Paper draft written by consultant and sent to IEU for comments.
- September 21-October 19, 2018: Comments received and integrated.
- October 22-November 15, 2018: Paper finalized and submitted.

V. Candidate Requirements and Qualifications

(a) Deep knowledge in the field of complexity science;
(b) Knowledge of methods for measuring and modeling complexity and complex phenomena;
(c) Familiarity with climate change and GCF programs;
(d) Knowledge of qualitative and quantitative methods for program evaluation, including randomized impact evaluations;
(e) Master's or Ph.D. in ecology, geography, economics, computational sciences, or related fields;
(f) Experience in interdisciplinary research, including conducting literature reviews and making policy recommendations;
(g) Ability to travel to Songdo, Korea for the period of the contract or to work remotely, maintaining effective communications with the Songdo office staff;
(h) Asset: Experience as a researcher at a complexity science institute or research centre.

VI. To Apply

Interested candidates are requested to submit the following items by July 22, 2018, Korean Standard Time (KST):

(a) CV or resume
(b) Cover letter highlighting relevant experiences and stating availability
(c) One or two samples of your writing on related topics
(d) Please send a single file named: "[last name] [first name]" (e.g. Johansson Anna)
(e) Subject line: "IEU Complexity and Evaluation Consultant" in a single file to: roster@gcfund.org and ieu@gcfund.org
(f) Please submit your application by July 22, 2018, KST