Impact of the Global Environmental Facility on Multilateral Environmental Agreement Fragmentation

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Table of Contents

Abstract

International environmental regimes are largely fragmented. While much of the focus has been on institutional fragmentation, little focus has been paid to financial mechanisms and the projects they fund that support institutions and navigate their interlinkages. This thesis explores the impact of the Global Environmental Facility (GEF) on Multilateral Environmental Agreement (MEA) fragmentation. It applies fragmentation theory in a mixed method approach to determine that the GEF fosters synergistic fragmentation among the climate change, biodiversity, and land degradation regimes. Using a frequency analysis of the GEF project portfolio this thesis finds that both the funding for and amount of integrated projects is increasing at the GEF. Additionally, a case study on a trio of Integrated Approach Pilots demonstrates that the a typology of fragmentation can be applied to projects initiated by financial mechanisms. Taken together, this thesis establishes the GEF as a coordinating mechanism responding to MEA fragmentation. Furthermore, it finds that environmental projects are an important vehicle in addressing the functional overlap between MEAs, and can be studied to understand the degrees of fragmentation in their related regimes.

Abbreviations

CBD	Convention on Biological Diversity
COP	Conference of Parties
GEF	Global Environmental Facility
IA	Implementing Agency
IPCC	Intergovernmental Panel on Climate Change
MEA	Multilateral Environmental Agreements
MFA	Multifocal Area (projects)
OECD	Organisation for Economic Co-operation and Development
SDGs	Sustainable Development Goals
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
WTO	World Trade Organization

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1. Introduction

The research on fragmentation of global governance architectures is growing; however, it has mostly focused on the institutional setting. Little focus has been paid to the funding mechanisms that service Multilateral Environmental Agreements (MEAs), and their impact on the overall fragmentation of the global environmental regimes. There are two primary mechanisms for MEA finance: country-to-country finance (bilateral funding), and multilateral funds. The Rio Earth Submit of 1992 established three key MEAs, the United Nations Framework Convention on Climate Change (UNFCCC), the Convention on Biological Diversity (CBD), and the United Nations Convention to Combat Desertification (UNCCD). Together, from 2002 to 2016, nearly USD 1.7 trillion was financed for these three MEAs through bilateral flows (OECD, 2016). In the climate regime alone, 28.5 trillion USD has been pledged by 20 different multilateral funds (CFU, 2019).

This thesis explores the impact of the Global Environmental Facility (GEF) on the fragmentation of the MEAs it services. The GEF is a multilateral financial mechanism charged with combating the drivers of environmental degradation, and uniquely stands as the financial mechanism servicing the CBD, the UNCCD, the UNFCCC, the Stockholm Convention on Persistent Organic Pollutants, and the Minamata Convention on Mercury. There are several other multilateral funds contributing to the various MEAs. For instance, the Green Climate Fund (GCF) services the Paris Agreement, and the Montreal Protocol has its own funding mechanism (the Multilateral Fund for the Implementation of the Montreal Protocol). Yet, the GEF is the only multilateral financial mechanism operating with such a broad focus across multiple MEAs. The GEF also carries 27 years of history, with more than 4500 projects in 170 countries, totaling $17.9 billion in grants and $93.2 billion in mobilized co-financing (GEF, 2019).

The GEF funds projects under five sectoral focuses related to its MEAs: biodiversity, climate change, land degradation, international waters, and chemicals and waste. Funding is programmed along these sectoral focuses, and occurs in 4 year cycles called replenishments

(figure 1-1). The projects themselves are undertaken by a network of 18 Implementing Agencies (IAs), which work with developing countries to draft project proposals and oversee the execution of the project on the ground. These include: the United Nations Development Programme (UNDP); United Nations Environment Programme (UNEP); the World Bank—International Bank for Reconstruction and Development (IBRD); the Food and Agriculture Organization of the United Nations (FAO); the United Nations Industrial Development Organization (UNIDO); the African Development Bank (AfDB); the Asian Development Bank (ADB); the European Bank for Reconstruction and Development (EBRD); the Inter-American Development Bank (IDB); the International Fund for Agricultural Development (IFAD); the World Wildlife Fund (WWF); Conservation International; the International Union for Conservation of Nature (IUCN); the Development Bank of Southern Africa; the Brazilian Biodiversity Fund; the Chinese Foreign Economic Cooperation Office; the Development Bank of Latin America; and the West African Development Bank.

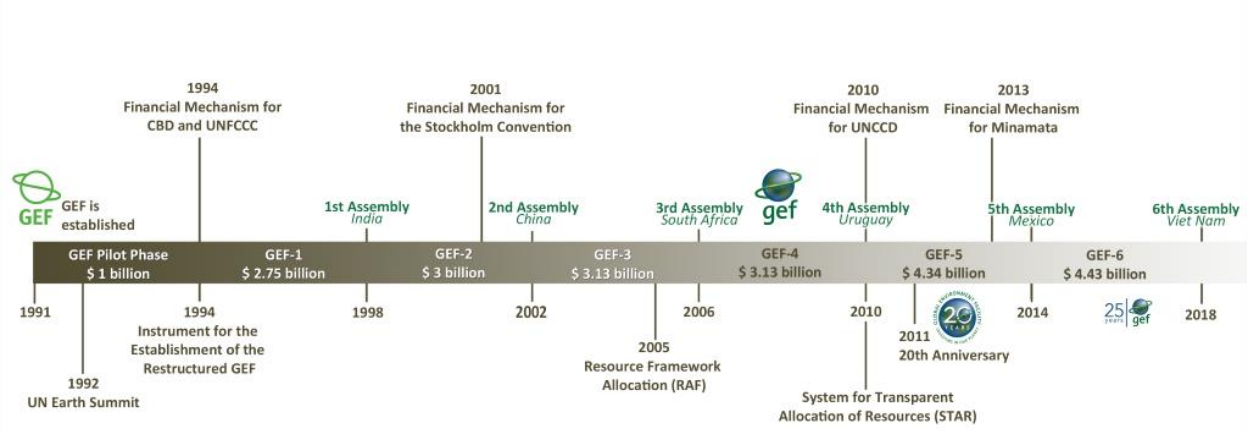


Figure 1-1: GEF Timeline (GEF, 2019)

GEF financing provides an avenue for analyzing fragmentation by following funding along the sectoral focuses of its programs. For instance, projects can be structured within a singular focus (climate change, biodiversity, land degradation, etc.) or they can be multi-focal, contributing to two or more MEAs. The GEF's unique position, servicing multiple environmental conventions,

allows the financial mechanism to collaborate across its sectors to address the underlying drivers of environmental degradation (figure 1-2). Many of the world's global environmental challenges are interlinked, share common drivers, and are thus more effectively solved in coordination. For example, "unsustainable agricultural production contributes approximately one-quarter of global GHG emissions. But it is also a leading cause of hypoxia in aquatic systems, and it can lead to deforestation and habitat destruction, thus promoting further loss of biodiversity" (GEF, 2015, pg. 21). The GEF has a responsibility to maximize the effects of its investment, and to do so it has increasingly focused on integrated programming as a means of creating systematic change. Recent research has supported this approach, and stressed the necessity to work across disciplines (Bierbaum et al., 2018; Scheffer et al., 2009). The MEA conventions and recipient countries of the GEF also recognize that their long term success is benefited by a focus on the drivers of environmental degradation, and have voiced support for enhancing synergies across the MEAs (GEF, 2015).

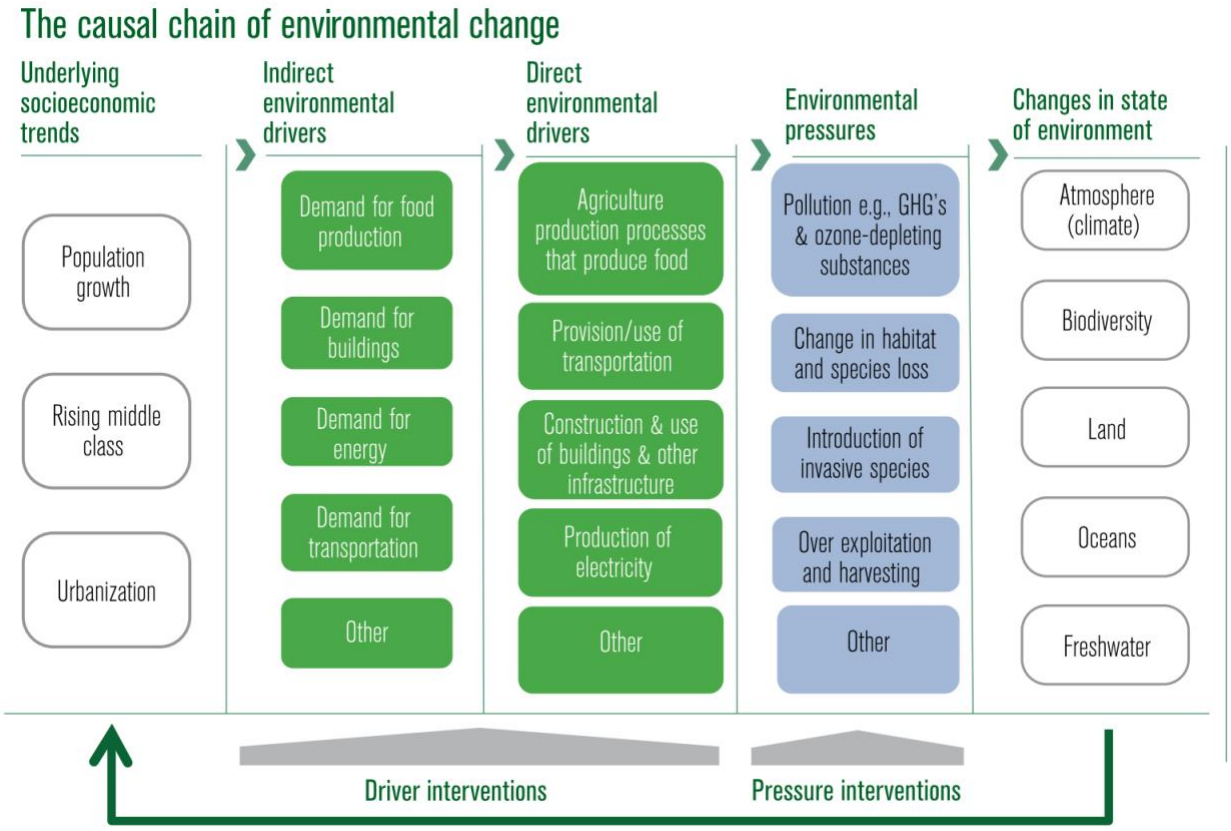


Figure 1-2: The Casual Chain of Drivers of Environmental Degradation (Source: GEF, 2015, pg. 18)

International environmental regimes are largely fragmented. Fragmentation, as defined by Biermann et al. (2009), is "a patchwork of international institutions that are different in their character (organizations, regimes, and implicit norms), their constituencies (public and private), their spatial scope (from bilateral to global), and their subject matter (from specific policy fields to universal concerns)" (pg. 16). Fragmentation potentially creates problems for the management of overlapping institutions. That being said, fragmentation is a value-free concept. It is the default state of almost all global governance architectures, as full integration rarely occurs (Biermann, 2009; Zelli, 2011). Thus, the concern with fragmentation is whether it impedes governance or benefits it. This can be determined by studying the type of fragmentation in a given issue area. Biermann et al. (2009) characterizes a typology of three distinct variants of fragmentation (synergistic, cooperative, and conflictive fragmentation) based on institutional

integration, norm conflict, and the distribution of actors. Certainly a scenario in which the actors and institutions are all aligned and working towards mutual benefit is a preferable governance architecture to a largely conflicted network of dissimilar institutions and actors.

There is a significant need for synergistic fragmentation among the Multilateral Environmental Agreements (MEAs). MEAs make up a large share of the international effort to address the world's dire environmental problems. Their effectiveness is an important consideration, especially considering the current pace of environmental degradation. Several planetary boundaries, from which mark the threshold to the destabilization of Earth systems that human societies and non-humans depend on, have already been crossed (genetic diversity, and biochemical flows) (Rockström *et al.*, 2009) & (Steffen *et al.*, 2015). Additionally, climate change is a looming threat. Climate science suggests that 2^{o}C is the tipping point from which cascading geophysical systems could push the Earth into critically hot temperatures (Steffen *et al*., 2018). With just 12 years to avoid warming above 1.5^{o}C from pre-industrial levels (IPCC 2018), there is a hurried need for effective action.

A lack of coordination between the MEAs and a "plethora of instruments and actors concerned with environmental protection gives rise to problems of governance" (Jabbour et al., 2012, pg. 19). This includes inconsistent norms and rules, duplication of work, negative spillover, and competing agendas and budgets (Biermann, Pattberg, Asselt, & Zelli, 2009; Blaxekjær et al., 2013; Jabbour et al., 2012; Johnson & Urpelainen, 2012; Zelli & van Asselt, 2013; Chambers, 2008). Additionally, this process of multiple forums and diverse obligations places a heavy burden on countries with limited capacity for international negotiations. Therefore, forays into enhancing synergies of the MEAs make their implementation more realizable. Synergizing the MEAs, however, is not a straight forward process. MEAs can have independent secretariats, member states, and negotiation forums. States also perceive the MEAs as separate entities, and as such there are barriers to the coordination of MEAs through the legal, institutional dimension.

Therefore, it becomes increasingly important to examine entities such as the GEF, and their impact in enhancing synergistic fragmentation.

Research Objective and Framework

There is currently an issue of conflictive fragmentation among MEAs. Both the conventions, and the international organizations working to implement them would benefit from a more synergistic governance architecture. This thesis posits that the GEF interacts with MEAs in a manner that is impactful on fragmentation through the implementation of projects that are able to advance the ambitions of more than one MEA.

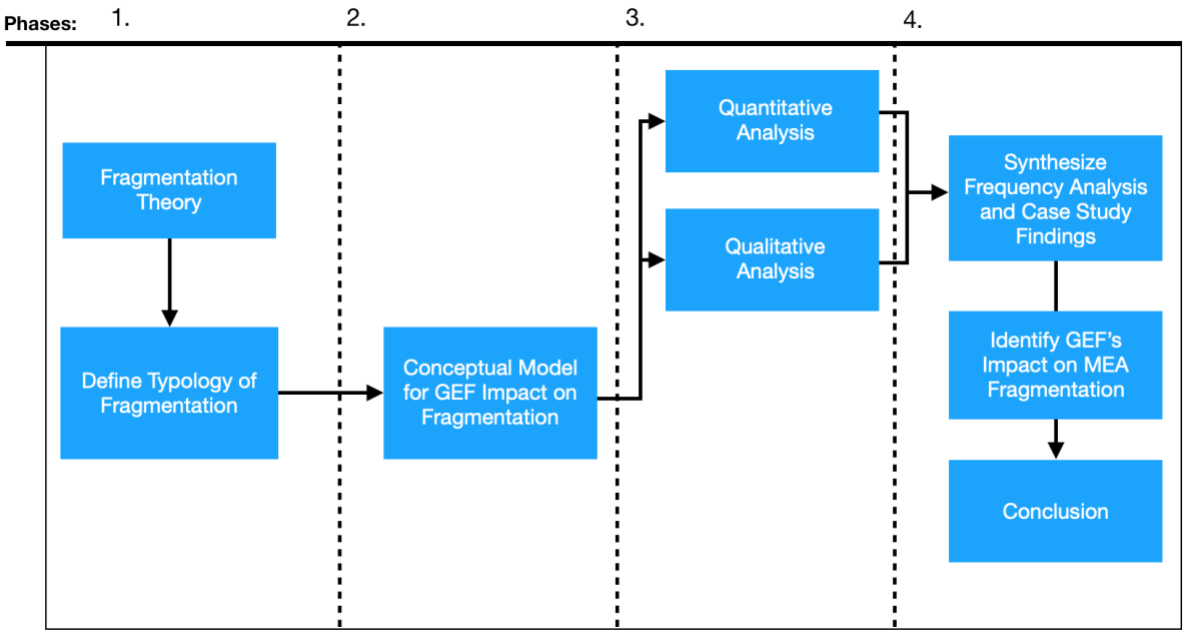


Figure 1-2: Research Framework

To operationalize the concept of MEA fragmentation, a literature review is conducted on Fragmentation Theory, and a typology of fragmentation—applicable to the GEF—is defined. A conceptual model is then constructed to allow for the comparison of GEF interventions on the

state of MEA fragmentation. Next, a mixed-method analysis is deployed to analyze the impact of the GEF's programmatic architectures on MEA fragmentation.

The analysis has a dual focus, both 1) quantitatively measuring the frequency of integration among GEF funded projects, and 2) qualitatively assessing the ability of integrated projects to achieve co-benefits for multiple environmental goals. Measuring the frequency of integrated projects at the GEF (both in terms of the amount of funding for and number of projects with more than one sectoral focus) illuminates the GEF's commitment to working in an integrated manner. It also charts the overall changes in the GEF portfolio to help predict trends of integrated programing in future GEF funding cycles.

However, just measuring frequency is not sufficient to explain the impact of integrated programming at GEF. Thus it is important to analyze the outputs of integrated programming. For project implementation to lead to a more synergistic typology of fragmentation among the MEAs, GEF funding needs to increasingly deploy integrated projects which have satisfactory outcomes for the stakeholders involved and provide co-benefits across multiple MEAs. The second part of the analysis focuses on the outputs of integrated programing, and uses a series of case studies involving three Integrated Approach Pilot (IAP) programs specifically aimed at the integration of projects across the biodiversity, climate change, and land degradation focal areas. These three IAPs are the Sustainable Cities IAP Program (the Cities IAP), the Sustainability and Resilience for Food Security in Sub-Saharan Africa IAP Program (the Food Security IAP), and the Taking Deforestation Out of Commodity Supply Chains IAP Program (the Commodities IAP).

The findings of the quantitative and qualitative analysis will then be synthesized in order to address the following Research Question:

Research Question

RQ: Does the GEF operate as a coordinating entity among the MEAs it services in a manner that is impactful on fragmentation?

Sub-question 1: What is the rate of change at the GEF for projects that target multiple conventions?

Sub-question 2: Are the GEF's integrated programs enhancing synergies among the GEF's conventions?

Scope

Fragmentation can be examined in a single regime, or more broadly across several regimes. For the purpose of this thesis, the analysis will focus on biodiversity, climate change, and land degradation—three of the five sectoral foci of the GEF. The delimited scope on these three focal areas matches the most common combinations of multifocal projects in the GEF portfolio. In the GEF-4 and GEF-5 replenishments, 54% of multifocal projects included biodiversity and land degradation, and half of those also included climate change (IEO, 2018). This also allows for a comparative analysis between GEF project funding data and bilateral financial data from the Organisation for Economic Co-operation and Development (OECD), which contains markers only for biodiversity, climate change, and land degradation.

In the GEF, projects that receive funding from different focal areas are classified as multifocal area projects (MFA), and MFAs are "required to address at least one strategic priority of each focal area that allocates funding" (IEO, 2017c, pg. 71). The terms multifocal projects, MFAs, and integrated programming are used interchangeably in this thesis, and generally refer to projects that seek to achieve the objectives of more than one environmental convention. However, it is important to note the difference between a program and a project. A program generally encompasses several target areas with multiple objectives, and can be comprised of smaller "child" projects. In contrast, projects are more narrow in scope, and typically target one country

or area. The frequency analysis will be comprised of both programs and projects, while the case study focuses on three programs and the associated child projects.

2. Theory

Environmental governance is characterized by wicked problems. Not only are the specific environmental issue—such as biodiversity loss, climate change, and persistent organic pollutants to name a few—incredibly complex and difficult to manage, the institutions and policy arrangements tasked with combatting these problems are themselves numerous, varied, and by-and-large fragmented. The issue is that many of these environmental challenges are transboundary, and thus require global governance architectures. Global governance architecture is best described as, "the overarching system of public and private institutions that are a valid or active in a given issue area of world politics" (Biermann et al., 2009, pg. 15).

Much of the literature on fragmentation cites the unharnessed potential for synergies among the MEAs (Biermann, Pattberg, Asselt, & Zelli, 2009; Johnson & Urpelainen, 2012; Zelli & van Asselt, 2013). Not only are environmental issues complex in scope, they are inherently interlinked. Work in one environmental regime can lead to unintended consequences in another. Johnson & Urpelainen (2012) categorize these unintended consequences as either positive or negative spillovers. Positive spillovers refer to, "when cooperation in one issue area aids the pursuit of objectives in another issue area" (pg. 645); and negative spillovers refer to, "when cooperation in one issue area impedes this pursuit in another issue area" (pg. 645). An example of negative spillover is the proliferation of monoculture plantations as carbon stocks to address climate change. While it benefits one issue area, monoculture crops are known to have negative impacts on native biodiversity (Hall, van Holt, Daniels, Balthazar, & Lambin, 2012). Conversely, positive spillover occurs when interlinkages between issue areas are leveraged to provide synergistic solutions that benefit two or more MEAs. The UNFCCC initiative, Reducing Emissions from Deforestation and forest Degradation in Developing Countries (REDD+), specifically targets the intersection of mitigating climate change and afforestation.

To harness the positive and address the negative spillovers between the MEAs, the degree fragmentation becomes an important consideration. The degree of fragmentation can be considered by a number of different criteria (Biermann et al., 2009). One method is to measure the integration/separation among distinct entities in a given regime. In MEA financing, the degree of fragmentation is quantifiable along the sectoral focuses of the programs. Programs structured within a singular focus demonstrate separation of the MEAs, whereas multi-focal programs provide integration, as they contribute to two or more MEAs.

The GEF is uniquely positioned to operate across its five sectoral focuses. Among international financial mechanisms, "the GEF is the only institution that addresses several global environmental issues" (IEO, 2017c, pg. 3). In theory, integrated programing allows the GEF to address the drivers of environmental degradation, while also enhancing the synergies across the different environmental conventions of the GEF. Integrated projects, if executed properly, can lead to enhanced synergies among the MEAs. Thus, integrated programming can be related to Biermann et al.'s (2009) typology of fragmentation as synergistic fragmentation (table 2-1). It is important to note that an individual, single-focus project may not necessarily contribute to conflictive fragmentation; however, if the majority of MEA funding is directed towards single-focus projects, the entire project landscape will exhibit conflictive fragmentation.

	SYNERGISTIC	COOPERATIVE	CONFLICTIVE
INSTITUTIONAL INTEGRATION	One core institution, with other institutions being closely integrated	Core institutions with other institutions that are loosely integrated	Different, largely unrelated institutions
NORM CONFLICTS	Core norms of institutions are integrated	Core norms are not conflicting	Core norm conflict
ACTOR CONSTELLATIONS	All relevant actors support the same institutions	Some actors remain out-side main institutions, but maintain cooperation	Major actors support different institutions

Table 2-1: Typology of Fragmentation (Source: Biermann et al., 2009, pg. 19)

Although Biermann et al.'s typology of fragmentation is a helpful conceptual tool, it was originally created with global governance architectures in mind. In order to best apply it to the programmatic architectures of a multilateral financial mechanism, some translations need to be made (table 2-2). In the original typology institutional integration is synergistic when institutions are closely integrated around one core institution. For the GEF to exhibit the same, the conventions would need to be closely integrated with one another in the programmatic architecture of the GEF replenishments. In other words, there should be evidence of projects that progress the objectives of multiple MEAs within GEF programming; and limited evidence of projects in one focal area causing harm to the objectives of another.

Synergistic norm conflicts require that the core norms of intuitions are integrated. In this case, core norms of the GEF conventions would need to be well expressed and in alignment with one

another and the GEF. The conventions would need to clearly express their objectives to the GEF, and the GEF would need to be receptive to the guidance of the conventions. Evidence for norm conflict can be found in the formal and informal dialogs between the conventions and the GEF.

Theme	*Synergistic Typology*
Convention Integration	Conventions are closely integrated with one another through the programmatic structure of the GEF; projects in one area do not harm the objectives of another; projects achieve benefits across multiple conventions; projects are relevant to convention objectives.
Norm Conflict	Core Norms of conventions are expressed to the GEF and are not in conflict; the GEF secretariat is receptive to strategic advice from its Conventions; and the conventions themselves are supportive of integration.
Implementing Agency Constellation	Implementing Agencies are operating to their comparative strengths; Projects that involve more than one IA have satisfactory outcomes; IAs are in alignment with GEF guidance and each other.

Table 2-2: Typology of Synergistic Fragmentation for the GEF

Finally, synergistic actor constellations require actors that are supportive of GEF guidance, and advance synergies among one another. IAs that operate in accordance to their comparative strengths, and projects involving multiple IAs with satisfactory outcomes—are all indicators of synergistic actor constellations.

GEF Structure

To understand how the GEF contributes to the Fragmentation of its MEAs, it is first important to understand the GEF's structure. The GEF was originally setup as a pilot program in 1991. Following the Rio de Janeiro Earth Summit in 1992, the GEF became the financial mechanism charged with implementing the conventions agreed at Rio. The GEF has grown since then, with 6

four year investments cycles—or 'replenishments'—under its belt, and the 7th negotiated in 2018. The GEF is comprised of an Assembly, Council, Secretariat, Independent Evaluation Office (IEO), and a Scientific Technical Advisory Panel (STAP) (figure 2-1).

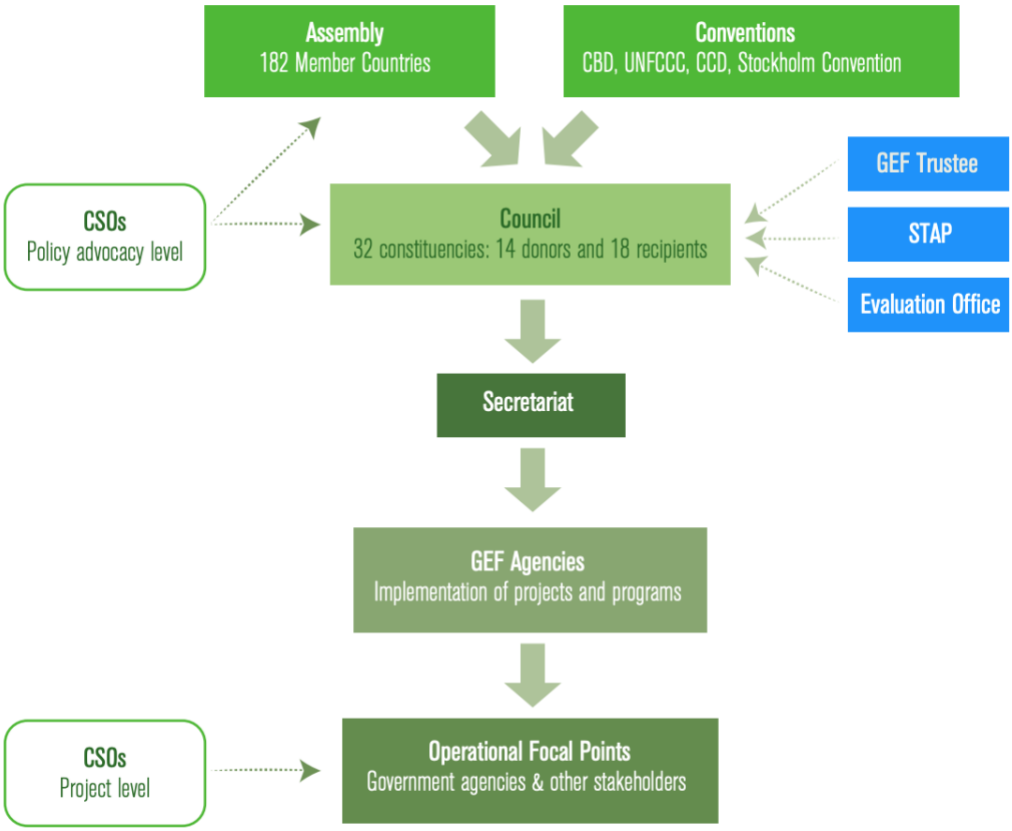


Figure 2-1: Organization of the GEF (GEF, 2011, pg. 12).

The Assembly includes 183 member countries, who convene every three years. Any state that is a member to the United Nations (UN) or any UN specialized agencies may participate in the Assembly. Assembly members review general GEF policies, operations, and membership to the GEF. They also vote (consensus) on amendments to the GEF proposed by the GEF Council (GEF Secretariat, 2015). The main governing body of the GEF is the Council, which is made up of 32 member states, 16 from developing countries, 14 from developed, and 2 from economies in

transition. The council meets twice annually, and governs the work program of the GEF, approving or rejecting project proposals (*ibid).* The World Bank is the Trustee of GEF funds, and also an implementing agency of the GEF. The GEF's 18 implementing agencies work with countries to propose projects to the GEF and then implement them.

The GEF interacts with its conventions in two important ways: 1) it reports to the conventions to receive broad operational guidance; 2) it implements programmatic architecture based on the needs and objectives of the conventions. This process details a network of several diverse institutions operating in the environmental arena. Fragmentation is indeed present, as there lacks any centralized authority, such as "World Environmental Organization", to which these institutions are legally bound. In fact, the entire GEF partnership is characterized by soft governance (Abbott, Genschel, Snidal, & Bernhard, 2015), non-binding agreements linking the MEAs to the GEF, and the 18 IAs. The question thus arises, what is the typology of fragmentation in this particular arena, and does the GEF influence this arrangement?

Conceptual Model

MEAs, by and large, exist as separate entities. They have individual secretariats, membership, hold their own Conference of the Parties (COP), and are negotiated separately from each other. The MEAs lack an organization comparable to the World Trade Organization (WTO), to provide top-down guidance and synergy among them. From a legal landscape they are indeed fragmented. Yet, the legal landscape is not the only level of MEA implementation. Under mandate of the MEAs, projects of various scale and focus and are conducted.

If the MEAs are the forum where states reach consensus on policy, the projects are those policies realized. It is the applied landscape from which funds and effort are amassed to accomplish the environmental goals set forth in their respective MEAs. Projects, themselves, are initiated by a

wide range of actors and institutions. This thesis delimits its scope to just two sources: bilateral projects, and projects initiated through the GEF.

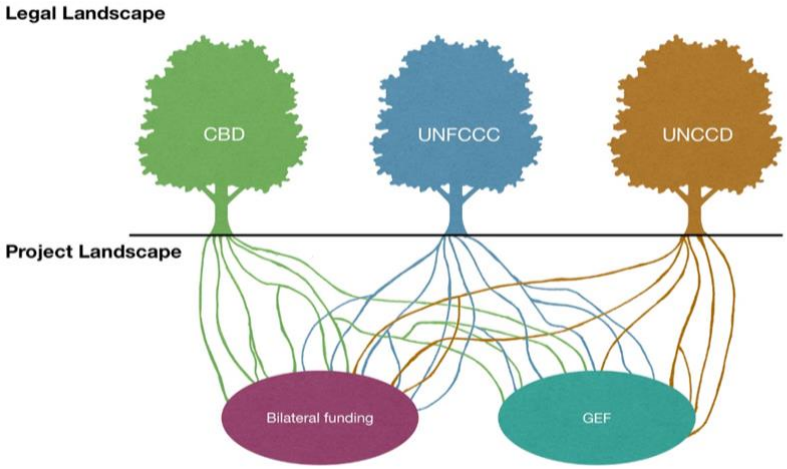


Figure 2-2: Project Funding Among MEA Fragmentation

Bilateral funding represents the lion's share of international funding for environmental projects. OECD countries reported roughly $175 billion (USD, deflated to 2015) for Rio environmental projects in 2016 (OECD, 2016). That said, the GEF is an important source of environmental financing for the five sectors it operates in. In fact, in the biodiversity field—which comparatively receives little funding, the GEF is considered one of the largest and most consistent source of funding. Even more impressively, the GEF is the only source of global financing for international waters, land degradation, and chemicals and waste (IEO, 2017c). These two funding streams provide insights into how the project architecture can affect the institutional fragmentation of their related MEAs.

One of the main challenges of contemporary global environmental governance is on the ground implementation (Andresen & Rosendal, 2009). Yet on the ground implementation has the potential to increase synergies amongst otherwise conflictive-fragmented MEAs. MEAs are inherently bound to their specific focus and objectives, yet projects can integrate the objectives

of different MEAs to achieve multiple environmental benefits. The following conceptual model (figure 2-2), is an amalgamation of various theoretical tools borrowed from the literature on fragmentation.

In the institutional, or legal landscape of the conventions, fragmentation can either be seen as synergistic or conflictive. This is the dependent variable, and influenced by the project landscape. Notably, cooperative fragmentation is missing from the model. This is due to the fact that the divisions between the typologies are not always evident in empirical application (Biermann et al., 2009). Also, the research question is concerned with whether or not the GEF has an impact on fragmentation. A binary stance between two typologies of fragmentation allows for conclusions to be drawn from the analysis that are relevant to the research question, i.e. GEF projects move the system towards conflictive fragmentation, or vice versa.

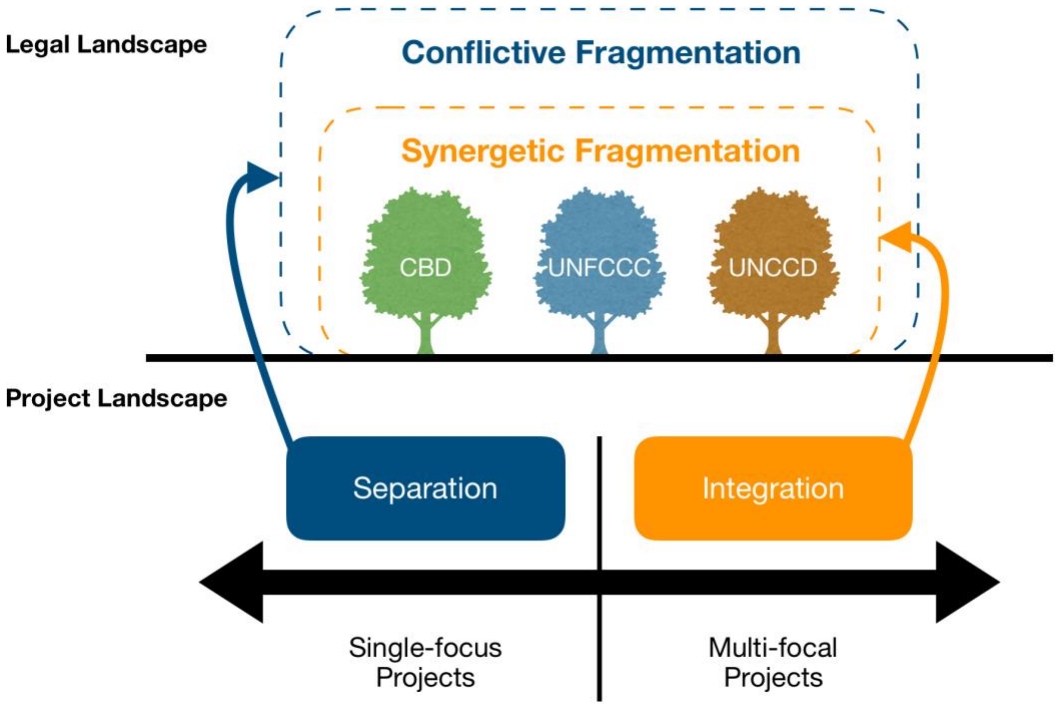


Figure 2-3: Conceptual Framework of Project Impact on Fragmentation

The project landscape of the conceptual model borrows from Johnson & Urpelainen's (2012) work on regime integration and separation. Johnson & Urpelainen (2012) note that while many environmental regimes, such as ozone-deserts, climate-forests, and climate-deserts, lack a formal institutional core linking them together; they are, however, connected through the GEF. The more integration occurs at the GEF, the less separated these regimes become. When the GEF operates MFA projects it exhibits regime integration. Conversely, when it operates single-focus projects it exhibits regime separation. This scale of integration and separation makes up the independent variable, and influences the typology of fragmentation among the MEAs.

It would be erroneous to assume that integration is always benefited by the more multifocal a project is in scope. That being said, a MFA project that covers biodiversity, climate change, and land degradation has the potential to enhance the synergies between those three regimes, and thus has a potentially larger influence than a MFA project with only two focal areas. Yet, external factors—such as project design, budget, scope, execution, embeddedness in the targeted environmental regime—all serve to impede such a measurement. It is also important to note that projects singular in focus may not necessarily act as drivers of separation and the conflictive fragmentation that results. Conflictive fragmentation could arise from external variables such as negative spillovers, norm conflicts among implementation agencies, or simply poor project design and/or execution. In fact, the GEF secretariat states that, "Certain GEF focal area objectives are best pursued through discrete, single-focus interventions" (GEF, 2018c, pg. 7), and that "there is a need to act with focused action in specific areas, such as the protection of biodiversity" (*ibid*, pg. 6). Nevertheless, single-focus projects are the hallmark of a conflictive-fragmented regime, and MFA projects are drivers of a more holistic approach towards arresting environmental degradation. This assertion is supported by the STAP, who states that "a lack of integration is a major detriment to achieving sustainability" (Bierbaum et al., 2018, pg. 6). In fact, a 2012 evaluation of MEA progress that found fragmentation at the root of the slow progress in achieving international environmental goals (Jabbour et al, 2012). To ramp-up progress towards

the goals of the MEAs, integration needs to be at the forefront of project design. According to the STAP:

> Integrated approaches can deliver multiple benefits by bringing together the objectives of different Multilateral Environmental Agreements (MEAs) in a more comprehensive approach to planning and management. This can enhance synergies while managing trade-offs at the local, sub-national, and national level, and in sectors, for example, by increasing food production without degrading land, increasing greenhouse gas emissions, or polluting water resources. Integrated approaches can also untangle complexity, so that root causes can be identified and managed through focused interventions, while also anticipating feedbacks and building whole-system resilience. (Bierbaum et al., 2018, pg. 6)

The qualitative analysis will examine the link between integration occurring in the project landscape and synergistic fragmentation among the MEAs through a series of case studies on integrated programming. Positive impact on fostering synergies among the MEAs is conceived based on convention integration, norm conflict, and actor constellations of GEF IAs. The Biermann et al. (2009) typology of fragmentation is well suited to an analysis of MEA fragmentation through project architecture. The conventions establish certain objectives pertaining to their issue arena, such as the Aichi Biodiversity Targets of the CBD. Environmental projects have the ability to contribute to these objectives, especially when they are incorporated into the design process, as is the case for projects at the GEF. Convention integration, therefore becomes a relevant mode of inquiry into the impact of projects on MEA fragmentation. Similarly, the norms established by the conventions can either be represented or missing in project design. The GEF operates in service to its conventions, and must maintain receptiveness to convention guidance. Guidance that is articulate and detailed provides the GEF with more opportunities to adhere projects to convention norms. Finally, actor constellation is a relevant category to

explore, as environmental projects catalyze the actions of a wide range of international organizations, such as the 18 IAs of the GEF.

The GEF, itself, also evaluates and reports on its ability to foster synergies through its programming. In this measurement, *synergy* is defined as multiple global environmental benefits achieved in more than one focal area due to a single intervention (IEO, 2018). The GEF's definition of synergy, on its own, is not completely analogous to the synergistic typology used in the analysis; however, it is helpful in the convention integration category. Norm conflict, and actor constellations can be determined by reviewing project documentation, convention guidance communicated to the GEF, and IEO evaluations.

Furthermore, the quantitative analysis will measure integration in the project landscape occurring both at the GEF and among bilateral funding. The results will provide a numerical value for integration occurring at the GEF and bilaterally. Bilateral funding was included because it marks a significant contribution to the MEAs and serves as counterfactual to a no-GEF scenario. This allows for a comparison between the rates of integration occurring at both sources. If integration is increasing at a higher rate at the GEF as compared to bilateral funding it would mean that increase is due to the guidance of the GEF secretariat and its partners. Taken together with the results of the qualitative analysis, the findings should help to elucidate the GEF's impact on MEA fragmentation.

3. Methodology

Qualitative and Quantitative Assessment

In order to assess the explanatory power of the conceptual model and determine if GEF's integrated programing is impactful on fragmentation, the analysis is twofold: 1) a quantitative assessment on the rate of integrated programing in the GEF and bilaterally; and 2) a qualitative assessment on the merits of the integrated programing approach as it relates to the fragmentation of the MEAS.

The quantitative assessment will focus on the actual amount of integration occurring within the GEF portfolio; and then compare this with the trend of integrated programing occurring outside the GEF, using bilateral environmental funding data of OECD countries. Bilateral, or country-to-country payments, serve as a counterfactual to GEF orchestration. Naturally, bilateral funding exists outside of the GEF multilateral process, and is not subject to GEF funding guidelines, policies, or priorities. While it is possible that bilateral funding decisions could be influenced by the GEF or GEF IAs, it's difficult to establish a connection without specific insight from each individual project; and thus this isn't factored into the analysis. Bilateral funding and the GEF's portfolio are considered as separate funding streams.

The qualitative assessment will examine the three IAPs introduced in GEF-6 as case studies. It will apply the Biermann *et al.* (2009) typology of fragmentation—modified to the GEF—to determine if the IAPs demonstrate synergistic elements according to convention integration, norm conflict, and IA constellations.

GEF Project Database

The GEF operates with five sectoral focuses: biodiversity, climate change, land degradation, international waters, and chemicals and waste. Funding is appropriated in four year investments cycles called replenishments, the newest replenishment being GEF-7 (2018-2022). The entire GEF

project database is available online to the public[1], and was utilized for this analysis. A .CSV file of 4768 projects was extracted from the GEF website, and then treated in excel. The projects range from the GEF pilot phase to GEF 6 (1991—2018). The data was pared down to only include relevant variables for each project: focal areas, project title, funding amount, and GEF replenishment. Focal areas are nominal variables in the database, they are either one or more of the five sectoral focuses of the GEF. To establish the sectoral distribution of each project, a search function was employed, "=ISNUMBER(SEARCH("Biodiversity",A2))". These allowed for a binary, "0" or "1", count of each focal area to use later in the analysis. If the project listed biodiversity, and land degradation, it would receive a 1 for biodiversity, 1 for land degradation, and a 0 for the other three sectoral focuses (Table 4-1).

Table 3-1: Example of Sectoral Focus Distribution

Biodiversity	Climate Change	Land Degradation	Chemicals and Waste	International Waters
1	0	1	0	0

In order to determine the factor of integration, the values for each of the sectoral focuses were added with the following function, "=IF(G2>0,1,0) +IF(H2>0,1,0) +IF(I2>0,1,0) +IF(J2>0,1,0) +IF(K2>0,1,0)". This provided an integration score for each project that ranged from 0—5, in order of increasing integration. A score of 1 constituted a single focal-area project. Subsequently projects with 0 integration (while quite rare) were removed from the analysis, as they did not fall under any of the GEF focal areas. Additionally, due to the varied nature of the GEF focal areas,

[1] https://www.thegef.org/projects

not a single project reached an integration factor of 5. Thus the analysis only considered projects ranging from 1—4 foci. This score was titled "GEF 5 Sector Integration Factor".

Since the scope of the thesis was limited to the three MEAs: UNCCD, CBD, and UNFCCC—and the OECD data used for analysis of bilateral funding only contained markers for these three sectors, the comparative analysis examined GEF projects only in the biodiversity, climate change, and land degradation focal areas. The process of identifying the integration factor was similar to the method stated above, but limited to scores of 1—3. This score was titled "Rio Integration Factor". Therefore, the scoring system for each individual project provided the two integration factors as shown in the table below (Table 4-2).

Table 3-2: Integration Factors

Biodiversity	Climate Change	Land Degradation	Chemicals and Waste	International Waters	Rio Integration Factor	GEF 5 Sector Integration Factor
1	1	1	0	1	3	4

Once integration factors were established for the GEF project portfolio, a frequency analysis was conducted in SPSS, and split across all seven phases of the GEF (pilot phase to GEF-6). This produced the following table for each phase:

Table 3-3: GEF Frequency Analysis for GEF-6

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	547	74.7	74.7	74.7
	2	114	15.6	15.6	90.3
	3	67	9.2	9.2	99.5
	4	4	0.5	0.5	100.0
	Total	732	100.0	100.0	

In the frequency analysis a third measurement was used, called "mixed integration". Because multifocal-projects consist of two more projects, integration scores of 2 and higher were accumulated together, and referenced as mixed-integration. Graphs were then created with mixed-integration on the y-axis and time (GEF phase) on the x-axis. In the mixed-integration measurement, no weight was given to projects based on their number of focal areas. The focal areas were instead aggregated, and the results were binary, either a project was single-focus or it was integrated. The frequency analysis and subsequent mixed-integration measurement, allowed for the determination of trends in integrated programing in the GEF. Both the frequency of multifocal-projects, and the proportion of funding for multifocal-projects were graphed and utilized in the analysis.

OECD Project Database

In order to determine a counterfactual to the GEF, bilateral funding data was extracted from the OECD Database[2]. The Rio markers database contains the financial flows of Development Assistance Committee (DAC) countries for environmental projects in developing countries. The data contains markers for biodiversity, climate change mitigation, climate change adaptation, and desertification. These markers were, "originally designed to help members with the preparation of their National Communications or National Reports to the Rio Conventions, by identifying activities that mainstream the Conventions' objectives into development co-operation. DAC members are requested to indicate for each development finance activity if the activity targets environmental objectives" (OECD, 2011, pg. 2). The data ranges from 2002 to 2016, and includes 1,015,701 projects.

[2] OECD Statistics on External Development Finance Targeting Environmental Objectives Including the Rio Conventions: https://www.oecd.org/dac/environment-development/rioconventions.htm

Similar to the method utilized in the GEF Project Database, the data was treated in excel. The markers were converted to a binary measurement of 0 and 1, and then totaled into an integration score. Because the climate change is split among mitigation and adaption measures in the database, an IF(OR) function was used in order to ensure that climate change measures were not counted twice. The integration factor provided an ordinal variable scale of 1, 2, and 3 (Table 4-4).

Table 3-4: OECD Integration Factor Tiers

Integration Level	Description
Level 1	One Rio marker, denoting a single-focal area project.
Level 2	Two Rio markers, indicating multi-focal area project of two sectors (ex: Biodiversity-Climate, Climate-Desertification).
Level 3	Three Rio markers, a fully integrated project across all three sectors.

537,721 projects did not contain Rio markers for Biodiversity, Climate Change, and/or Desertification, and were thus outside of the scope of the thesis and extrapolated from the data. The remaining 477,980 were used for the analysis. Again, this data set represents bilaterally funded projects. Multilateral contributions are not marked by DAC countries in the Rio markers data set.

Once the integration level was established for the 477,980 projects in excel, the data was then imported into SPSS to run the frequency analysis. The only difference being the range of integration between the GEF and the OECD data; 1—4 in the GEF data, and 1—3 in the OECD.

Table 3-5: OECD Rio Markers Frequency Analysis

Integration Factor[a]					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1	6420	71.4	71.4	71.4
	2	1655	18.4	18.4	89.8
	3	915	10.2	10.2	100.0
	Total	8990	100.0	100.0	

a. Year = 2002

In order to compare the trend-line of GEF integration to the counterfactual—OECD data, a three sector frequency analysis was also conducted on the GEF data. This included the same three markers of the Rio Bilateral data (biodiversity, climate change, and land degradation) and disregarded chemicals & waste, and international waters. Mixed integration—projects with 2 or more sectoral foci—were determined for both the 3 sector GEF analysis, and the OECD analysis. Thus the analysis could determine the frequency of integration in a manner comparable to both data sets.

It is also important to note that the OECD reporting is done by countries, and thus the guidelines for classifying project focus are not as rigid as the GEF process. A project that is multi-focal in OECD data set, may have its additional focal areas loosely attached to its primary objective. Because this is difficult to treat for in the comparative analysis, an OECD integrated project is weighted the same as a GEF integrated project. Nevertheless, the OECD data set allows for conclusions on overall frequency of integration.

Case Study Selection

Over the years the GEF has evolved in its approach to funding projects. Originally the GEF approved projects by operational program, "the operational programs identified relevant convention guidance, formulated corresponding program objectives and provided a list of

expected outcomes, project outputs as well as examples for typical activities to be funded through GEF" (GEF, 2012, pg.16).

This system was replaced in GEF-4 with the focal area strategies. The focal area strategies, "established strategic programs with explicitly stated expected outcomes. Provisional indicators to measure impacts as well as expected outcomes were formulated to allow for systematic monitoring of achievements" (*ibid*, pg. 2). The focal area strategies paved the way for project design that could be cross-cutting, integrating several focal areas into one project.

GEF-4 also introduced the Resource Allocation Framework (RAF)—which was updated and renamed the System for Transparent Allocation of Resources (STAR) in 2009. Both RAF and STAR distribute funding according to focal areas, "each country is given a specific funding envelope for biodiversity, climate change and land degradation focal areas. Projects that combine funding from different focal areas are categorized as MFA." (IEO, 2018, pg. 6). The GEF secretariat viewed MFA programming as a means to achieve multiple benefits with a single intervention, and thus provided countries with an incentive to pursue MFAs. In STAR, projects that "combine the priorities of at least two of these three focal areas can access the sustainable forest management SFM/REDD+ funding envelope" (ibid, pg. 6). As of GEF-6, this additional funding could match STAR funds by 50%.

GEF-6 also launched the IAPs. The IAPs are an evolution of the GEF's previous MFA work. Like their MFA counterparts in the STAR system, the GEF encourages countries to undertake IAP projects through the additional matching of funds—up to 100% when part of a country's STAR funding is used for an IAP project.

The IAPs, "collectively address major drivers of environmental degradation and/or deliver multiple benefits across the many thematic dimensions the GEF is mandated to deliver" (GEF, 2018c, pg. 76). According to the STAP, the IAPs were "conceived in response to the GEF's 2020 Vision that focused on addressing drivers of environmental degradation and supporting broad

partnerships to implement innovative programming" (Bierbaum et al., 2018, pg. 12). The design of the IAP programs are based on systems thinking, drawing from resilience literature, and their intended effect is to strengthen the interlinkages of the GEF focal areas. The financial resources allocated to the three IAP programs totals around $284 million (IEO, 2017a).

The three IAPs are: 1) ***The Sustainable Cities IAP Program,*** which works to "promote the integration of environmental sustainability in urban planning and management initiatives" (IEO, 2017, pg. vi); 2) ***The Sustainability and Resilience for Food Security in Sub-Saharan Africa IAP Program,*** which "seeks to support countries in target geographies to integrate priorities to safeguard and maintain ecosystem services into investments improving smallholder agriculture and food value chains" (*ibid,* pg. vi); and 3) ***The Taking Deforestation Out of Commodity Supply Chains IAP Program***, which aims to reduce the impact of soy, palm oil, and beef on deforestation, by targeting the supply chains in producing and demand countries (IEO, 2017a).

Table 3-6 IAP Information

IAP	No. of child projects	No. of countries involved	No. of Agencies involved	Focal area	GEF grant (mil. $)	Cofinancing	
						Amount (mil. $)	Ratio[a]
Cities	12	11	8	Biodiversity, climate change, chemicals and waste	137.3	2,416.7	18:1
Commodities	5	4	6	Biodiversity, climate change, sustainable forest management	40.3	263.5	7:1
Food Security	13	12	7	Biodiversity, climate change, land degradation	106.4	786.3	7:1
Total/average	30				284.0	3,466.5	12:1

SOURCE: GEF PMIS, as of July 31, 2017.

a. Cofinancing ratios are based on child project financing data.

Source: (IEO, 2017c, pg. 88)

The IAPs are the accumulation of the GEF's MFA work. They provide an excellent case study on project architecture specifically designed to foster integration across multiple MEAs. While they are still being implemented at this stage, and it will take several more years to see the total

impact of the IAPs, they are an important new archetype for integrated programming at the GEF. In fact, the IAPs have given way to full-fledged impact programs that will be allocated $925 million in GEF-7 (GEF, 2018a). This demarcates a shift in the GEF towards a larger commitment for integrated programming. Another benefit of the IAPs as a case study, is that they are among the highest funded, and largest integration factor of projects at the GEF (figure 3-1).

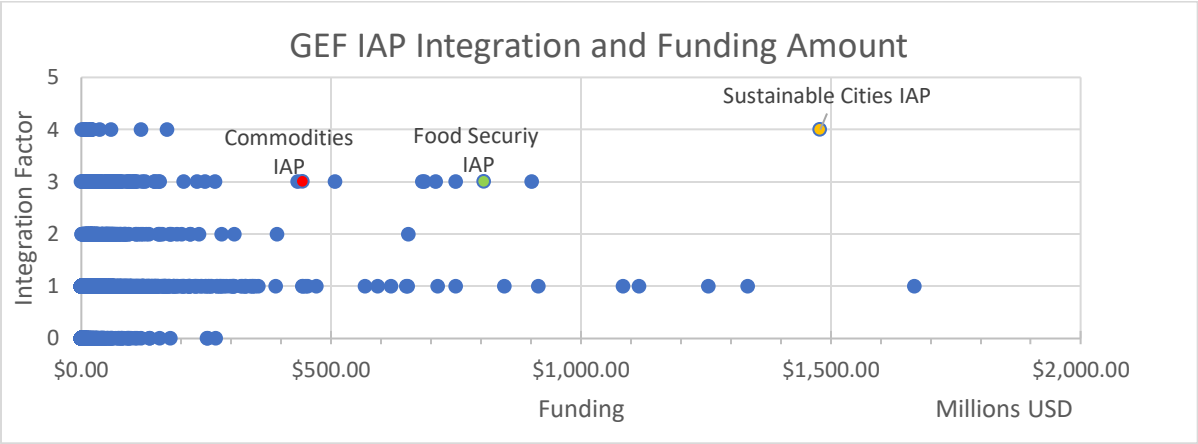


Figure 3-1: Grant and Co-financing for GEF Projects by Integration Factor

The analysis on the IAPs is structured according to the main themes of Biermann et al.'s (2009) typology of fragmentation appropriated for the GEF (figure 2-2): convention integration, norm conflict, and IA constellations. For *convention integration*, the findings are specifically concerned with the program's ability to achieve benefits across multiple conventions, and alignment with convention objectives (UNCCC, CBD, and UNCCD). The *norm conflict* theme looks for evidence of program relevance to the conventions. This is evident in convention decisions that are referenced in the IAP program architecture, and in the conventions view of the IAP program. Finally, *IA constellations* findings are focused on the design and implementation of the IAP program. Utilization of the IA's comparative strengths, and IA alignment are considered.

Research used in the case study is drawn from GEF Program Framework Documents for each IAP; the "quality-at-entry" review of the IAP program conducted by the IEO[3]; the IEO evaluation of the GEF's MFA portfolio[4]; the programing directions for GEF-6[5]; and the Sixth Overall Performance Study of the GEF: Final Report (OPS6)[6]. Many of the projects under the three IAP programs have just entered the implementation phase, therefore the analysis is focused on the design of the IAPs, and the process in which they are being launched.

[3] IEO (2017). Formative Review of the Integrated Approach Pilot (IAP) Programs. https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.ME_C.53_Inf.04_Review_of_IAP_Programs_Nov2017.pdf

[4] IEO (2018). Evaluation of the Multiple Benefits of GEF Support through Its Multifocal Area Portfolio. https://www.gefieo.org/sites/default/files/ieo/evaluations/files/multiple-benefits-2016-v1.pdf

[5] GEF (2014). GEF-6 programming Directions. http://www.thegef.org/sites/default/files/documents/GEF-6%20Programming%20Directions.pdf

[6] Independent Evaluation Office of the Global Environment Facility. (2018). Sixth Overall Performance Study of the GEF: The GEF in the Changing Environmental Finance Landscape. https://www.thegef.org/sites/default/files/council-meeting-documents/GEF.A6.07_OPS6_0.pdf

4. Results

GEF Project Integration Analysis

The first step of the analysis is to determine the overall frequency of integration occurring at the GEF. Figure 4-1 considers projects with 2 or more of the 5 GEF sectoral focuses.

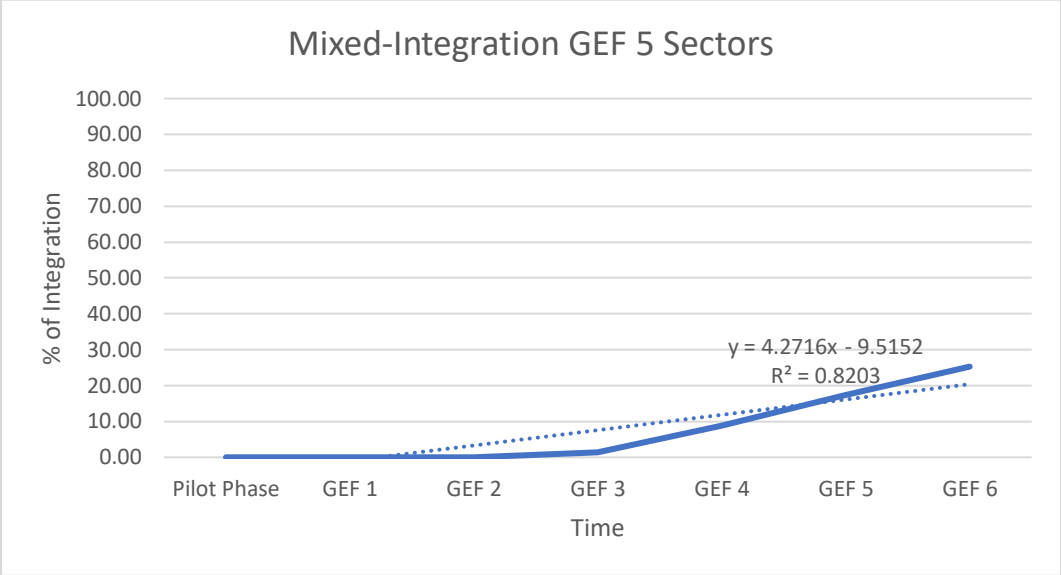


Figure 4-1:Mixed-integration of the five sectoral foci of the GEF

GEF-3 marks the first appearance of projects with more than one sectoral focus; however, this advance was quite limited, with only 1.4% of projects being multi-focal. The introduction of these projects corresponds to official guidance issued by GEF Secretariat in GEF-3, the Operational Program 12 (OP12). OP12 aimed to create projects that worked across focal areas, thus projects approved under OP12 were required to create outputs across at least two issue areas. OP12 was introduced due in part to country demand for more integrated projects (IEO, 2018). As stated previously, prior to GEF-4, projects at the GEF were designed according to operational programs related to the GEF conventions. GEF-4 introduced the focal area strategy, which categorizes projects according to the five focal areas of the GEF (climate change, biodiversity, land degradation, international waters, and chemicals and waste), and "In comparison to operational programs, Focal Area Strategies are aimed at formulating long term strategic objectives to guide

the activities under each Focal Area" (GEF, 2012, pg. 16). Programming according to focal areas also allowed the GEF to create strategies that were cross-cutting, contributing to multiple focal areas. This explains why integration doesn't occur until after GEF-3.

GEF-4 increased multi-focal projects to 8.9% of the total project portfolio. GEF-4 also commenced MFA as a category for projects (*ibid)*. GEF-5 more than doubled that amount to 17.44% of the project portfolio. This was in large part thanks to additional funding made available for MFA projects through the $50 million Forest Management Program (*ibid*). GEF-6 increased multi-focal projects again, to 25.27%. GEF-6 also introduced the IAPs.

	Single Focus	2 Focus	3 Focus	4 Focus	5 Focus	Mixed Integration
Pilot Phase	100.00	0.00	0.00	0.00	0.00	0.00
GEF 1	100.00	0.00	0.00	0.00	0.00	0.00
GEF 2	100.00	0.00	0.00	0.00	0.00	0.00
GEF 3	98.62	1.21	0.17	0.00	0.00	1.38
GEF 4	91.10	6.26	2.36	0.28	0.00	8.90
GEF 5	82.56	10.47	5.81	1.16	0.00	17.44
GEF 6	74.73	15.57	9.15	0.55	0.00	25.27

Table 4-1: GEF Mixed Integration Frequency Analysis - 5 sectors

While figure 4-1 measured the number of multi-focal projects, figure 4-2 graphs the increase in funding for multi-focal projects, as a percentage of total funding. Funding for multi-focal projects has increased rapidly—from 2% in GEF-3 to 39% in GEF-6. Funding for GEF projects has roughly doubled per GEF replenishment period since GEF-3. If this trend continues, the GEF will divert the majority of its funding for integrated projects (figure 4-3).

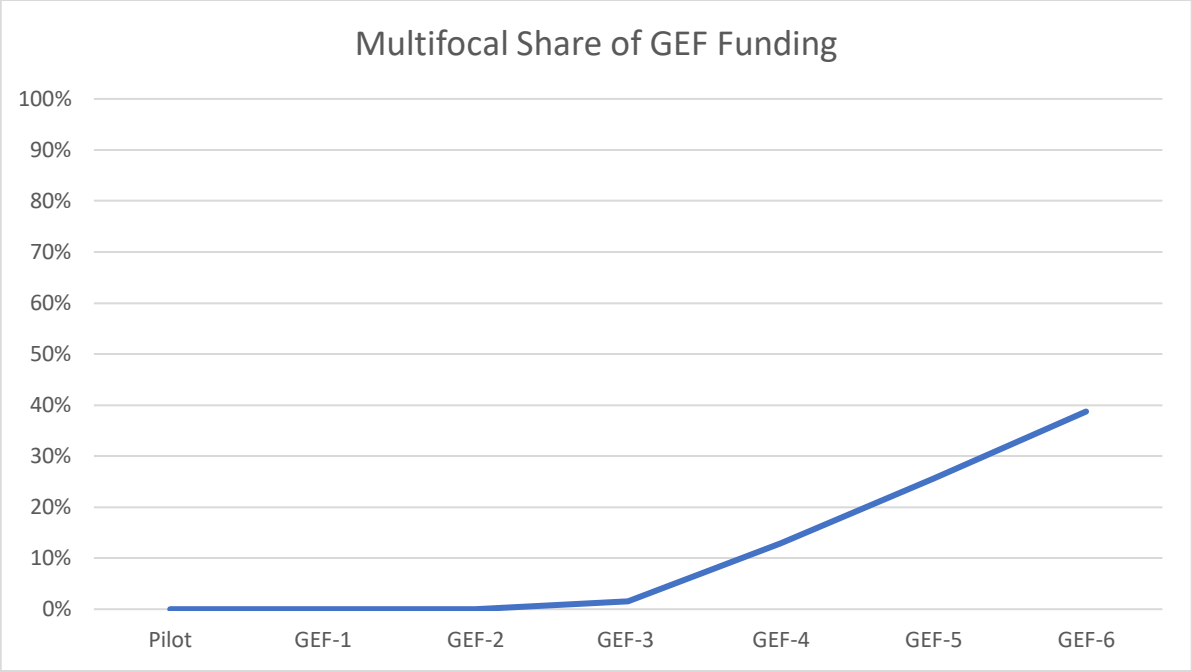


Figure 4-2: Multi-focal Funding as a Percentage of Total GEF Funding Per Replenishment

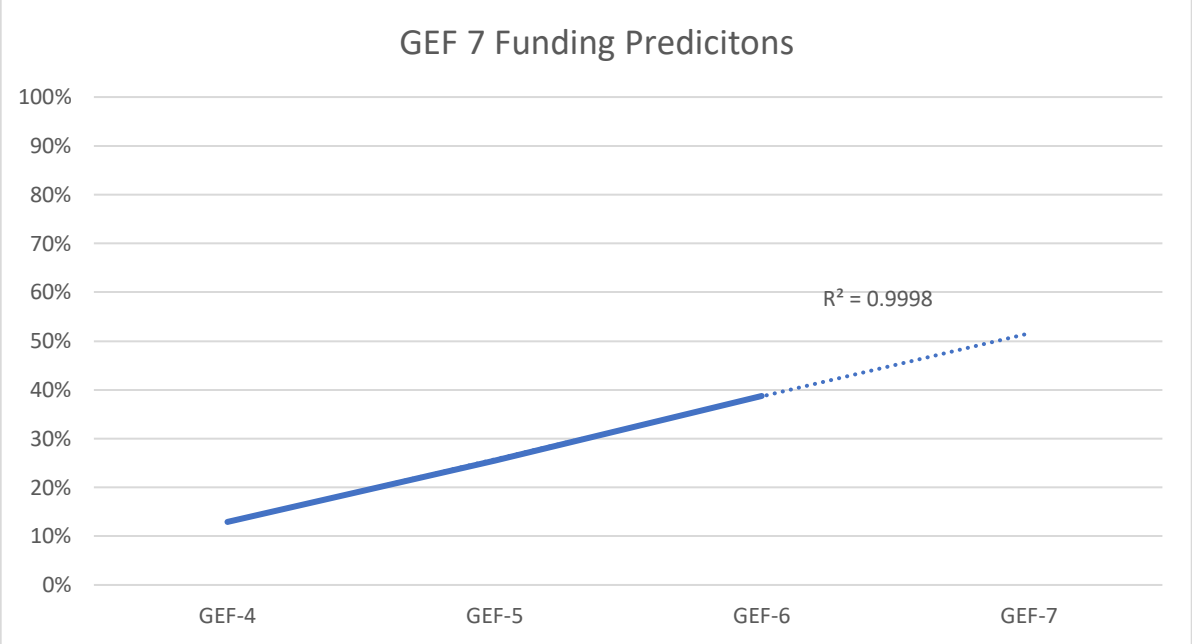


Figure 4-3: Multi-focal Funding Trends

Bilateral & GEF Comparative Analysis

The next section examines bilaterally funded projects that target more than one environmental objective out of biodiversity, climate change, and land degradation. Figure 4-4 shows that integration among bilaterally funded projects has seen incremental increases. In 2002, mixed integration accounted for 28.60% of the total project portfolio, and this increased to 38.53% in 2016, although with wide annual variation. From 2002 to 2006, mixed integration averaged at 32.15%.

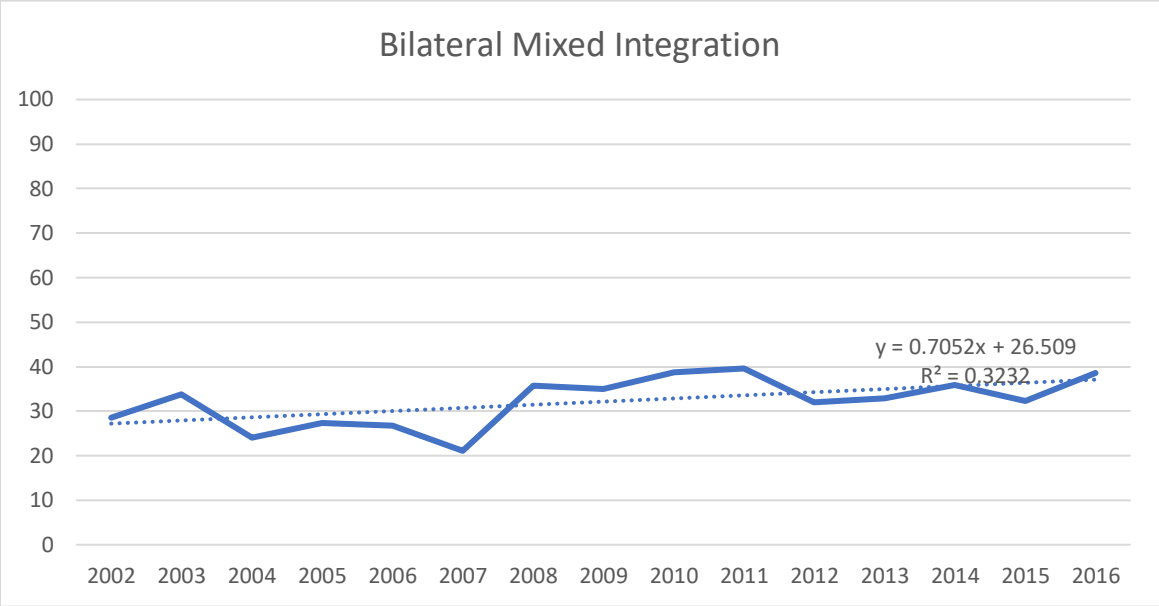


Figure 4-4: OECD Mixed Integration of Rio Markers

This is in sharp contrast to the GEF portfolio (figure 4-5), which began its tenure in 1991 with zero integration, but then saw a sharp increase in integrated projects in 2002 with GEF-3. Subsequent replenishments have increase the amount of integration by roughly 50% in each period.

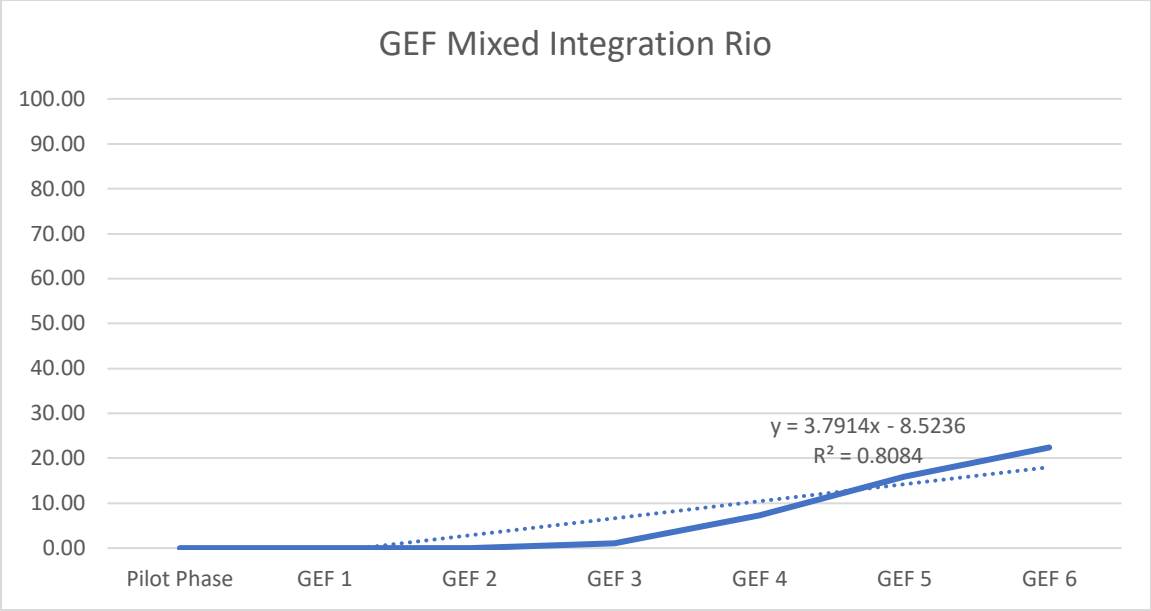


Figure 4-5: GEF Mixed Integration for Rio Focal Areas

The OECD data set begins in 2002 and continues to 2016. For similar GEF periods, the following figure (4-6) measures integration starting at GEF-3 (2002-2006) and continues to GEF-6 (2014-2018). While the amount of integrated projects at the GEF is comparatively lower than the bilateral portfolio, the slope, and thus the rate of increasing integration at the GEF far outpaces that of the bilateral portfolio.

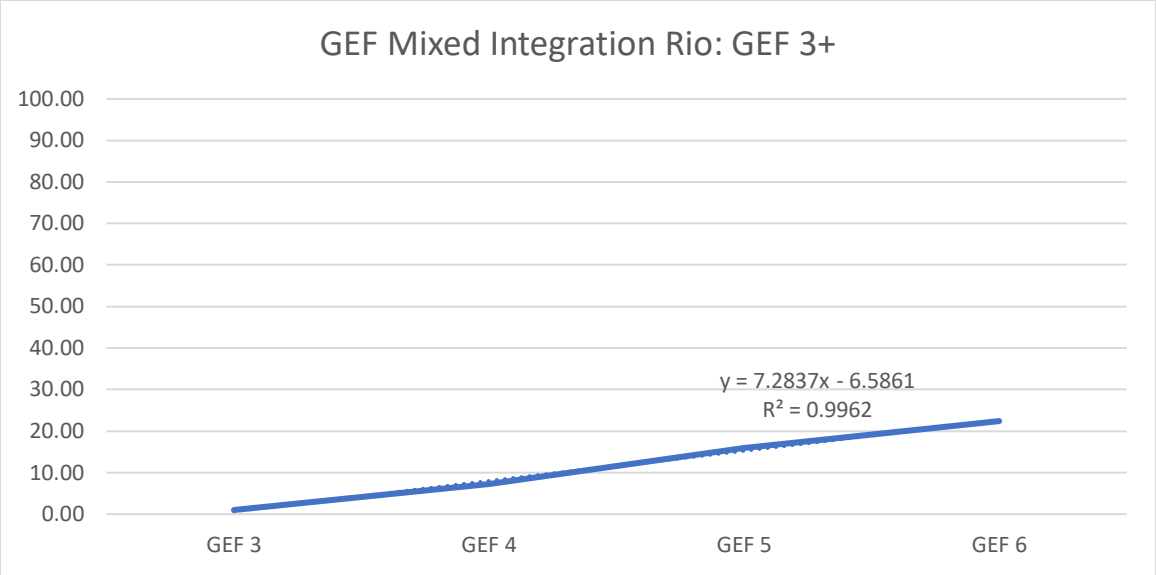


Figure 4-6: GEF Mixed Integration of Rio Focal Areas from GEF-3 Onwards

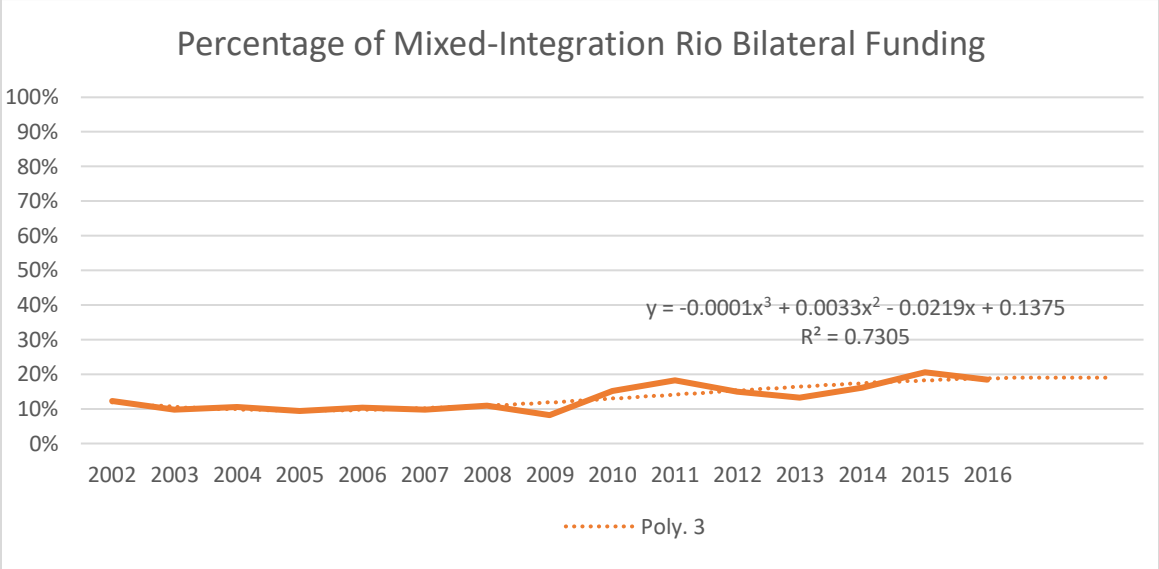


Figure 4-7: Bilateral Funding For Integrated Projects as a Percentage of Total Funding

In terms of bilateral funding for integrated projects as a share of total funding (figure 4-7), funding is rather stagnant, increasing only 10 percent from 2002 to 2016. This is also in contrast to funding allocations for integrated programming in the GEF (figure 4-2), which saw a sharp increase in funding, to 51.7% in GEF-6.

Case Study

An assumption in the conceptual framework of this thesis is that integrated project architectures lead to outcomes that enhance synergies among the MEAs. This case study examines if that is in fact the case for three pilot initiatives specifically designed to be "crosscutting, synergistic, and cost-effective, and directed at some of the underlying drivers of environmental degradation" (GEF, 2014, pg. 173).

The Cities IAP

The Cities IAP views rapid urbanization in developing countries as both a challenge and an opportunity, "the IAP is based on the premise that if managed well, compact, resilient, inclusive and resource-efficient cities could become drivers of sustainable development, and if managed poorly, sprawling urban areas will result in land degradation, strain ecosystems and essential infrastructure services, and increase levels of air and water pollution" (IEO, 2017a, pg. 4). The program was designed to initially work with 28 cities in 11 countries (figure 4-1), and was allocated $137 million in GEF-6.

The overall objective of the IAP is "to promote among participating cities an approach to urban sustainability that is guided by evidence-based, multi-dimensional, and broadly inclusive planning processes that balance economic, social, and environmental resource considerations" (GEF, 2015d, pg. 2). In order to accomplish this objective, the Cities IAP is designed to provide "tools, knowledge resources, and services to support local strategic planning processes and implementation efforts in targeted cities" (IEO, 2017a, pg. 3).

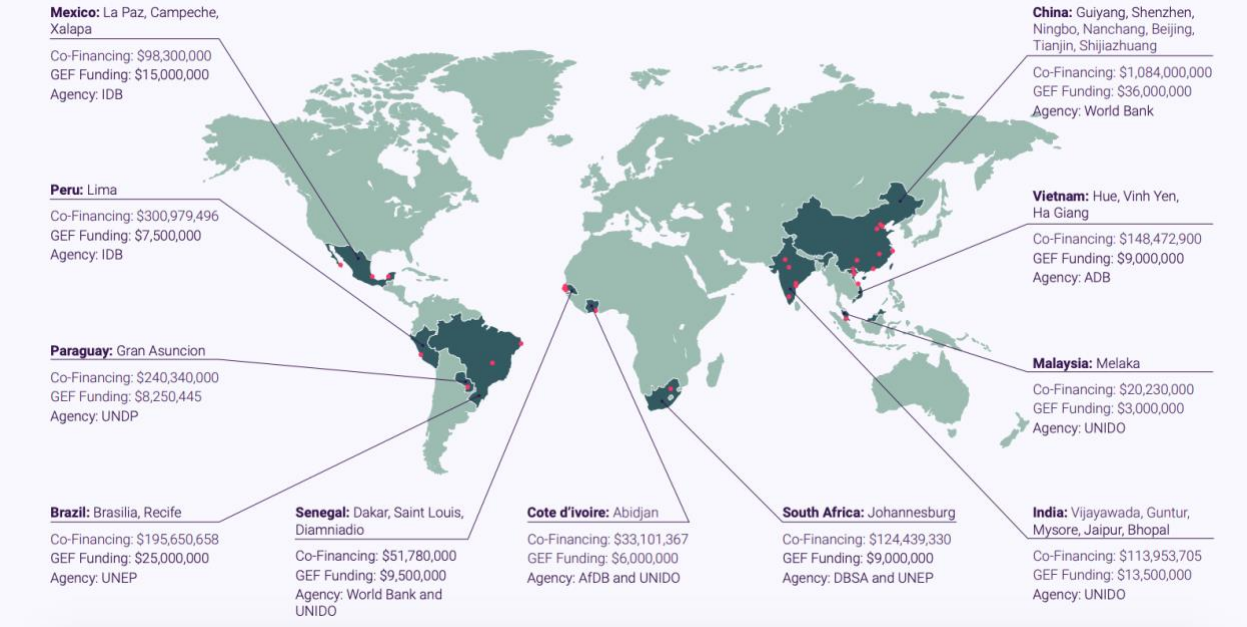


Figure 4-8: Cities IAP Program Map (GEF, 2018b, pg. 1)

Convention Integration

The Cities IAP primarily works with three GEF focal areas: 1) climate change (mitigation); 2) biodiversity; and 3) chemicals and waste. The original initiative called for more focal areas, such as land degradation, international waters, climate change adaptation, and sustainable forest management, but these additional focal areas were not realized in the final version of the IAP (IEO, 2017a).

The Cities IAP has spawned 12 child projects, child projects are individual projects under a given program. Of the 12 Cities child projects, 11 reference focal area objectives that align with the relevant MEAs (table 8) (IEO, 2017a). Focal area objectives are developed by the GEF secretariat utilizing convention guidance. They are attempts at operationalizing the conventions into programs with measurable outputs.

Table 4-2: Focal Area Objectives of Cities IAP

FOCAL AREA OBJECTIVES	OBJECTIVES
BD-1 PROGRAM 1	Improving financial sustainability and effective management of the national ecological infrastructure.
BD-4 PROGRAM 9	Managing the human-biodiversity interface.
CC-1 PROGRAM 1	Promote timely development, demonstration and financing of low-carbon technologies and mitigation options.
CC-2 PROGRAM 3	To promote integrated low-emission urban systems.
CW-1 PROGRAM 2	Support enabling activities and promote their integration into national budgets, planning processes, national and sectoral policies and actions, and global monitoring.

Note: BD = biodiversity. CC = climate change. CW = chemicals and waste.
(GEF, 2014, pg. 33, 36; 72; 99)

In its OPS6 review of the GEF, the IEO determined that the GEF biodiversity focal area strategies "have responded well to CBD guidance and direction" (IEO, 2017a, pg. 37). The focal area objectives introduced in GEF-6, which include the BD-1 and BD-4 objectives operationalized in the Cities IAP and 4 of its child projects, are "well aligned with four of the five goals of the Strategic Plan of the CBD for 2011-2020 and the corresponding Aichi Targets" (*ibid,* pg. 38-9).

In the GEF-6's focal area strategy for climate change, the IEO determined that "The GEF-6 Climate Change Focal Area Strategy is responsive to guidance from the convention, and the GEF-6 climate change mitigation portfolio is well aligned with convention guidance and GEF climate change mitigation objectives" (*ibid*, pg. 48). GEF-6 introduced CC-1 and CC-2 which is operationalized in the Cities IAP and 11 of its child projects.

While the Basel, Rotterdam, Stockholm and Minamata conventions are outside the scope of this thesis, the Cities IAP and 2 of its child projects contain chemical and wastes focal area objectives.

These focal area strategies have been "coherent with the guidance of the conventions […] as well as supportive of the goals of related multilateral environmental agreements" (*ibid*, pg. 65).

In addition to the focal area objectives listed above, the Cities IAP child projects are intended to pursue the following environmental benefits: "GHG abatement (11 child projects); biodiversity conservation (four child projects); persistent organic pollutants (POP) phase-out (two child projects); and land management (one child project)" (IEO, 2017a, pg. 18).

Altogether, the Cities IAP and its child projects operationalize focal area objectives that are in alignment with convention objectives, and achieve environmental benefits across multiple conventions.

Theme	**Synergistic Typology**	**Cities IAP**
Convention Integration	Conventions are closely integrated with one another through the programmatic structure of the GEF; projects in one area do not harm the objectives of another; projects achieve benefits across multiple conventions; projects are relevant to convention objectives.	The Cities IAP and its child projects operationalize focal area objectives that are in alignment with convention objectives, and achieve environmental benefits across multiple conventions.

Norm Conflict

A core innovation of the Cities IAP is working at the sub-national level, directly with cities. According to the GEF, "cities control policies and vital systems related to global environmental conditions, such as system-level management of infrastructure development, natural resource management, and setting environmental standards." (GEF, 2014, pg. 180). The UNFCCC, CBD, and UNCCD have also discussed the potential of cities for achieving the goals of the MEAs. The

table below cites convention decisions that mention the importance of cities in achieving the convention's goals.

Table 4-3: Links to Multilateral Environmental Agreement

Convention	*Decisions*
UNFCCC	The United Nations Framework Convention on Climate Change (UNFCCC) Decision 1/CP. 16 recognized the need to engage subnational and local governments and numerous decisions identified a role for these subnational stakeholders and governments such as Decision 1/CP.11, Decision 1/CP. 16, and Decision 2/CP.17155. In Decision 1/CP.19 from 2013, Parties agreed to facilitate the exchange of experiences and best practices between cities and subnational authorities in identifying and implementing opportunities to mitigate GHG emission and adapt to the adverse impacts of climate change. Furthermore, the role of subnational governments to engage in the UNFCCC process is being discussed within the framework of the "Friends of the Cities," among interested parties and institutions.
CBD	The Convention on Biological Diversity (CBD) Decision IX/28 articulated the need to involve cities in biodiversity strategies and action plans. A number of cities have initiated Local Biodiversity Strategic Action Plans in partnership with national governments, based on Decision X/22. In 2012, the CBD launched the "Cities and Biodiversity Outlook." The CBD also set up a Cities for Life Summit, in parallel to the official CBD-COP, and created the Global Partnership on Cities and Biodiversity.
UNCCD	The United Nations Convention to Combat Desertification (UNCCD), within its COP10 Multi-year Work Plan 2012-2015, identifies migration as one of the important variables and hence considers cities strongly interlinked with what the Convention aims to achieve, through their potential role and impact on migration.

Source: (GEF, 2014, pg. 183)

Convention norms about cities are present in the design of the Cities IAP. For instance, both the Cities IAP and the CBD agree on the impact of urbanization on biodiversity, "many cities contain sites of special importance for conservation because they protect threatened species and habitats" (Secretariat of the Convention on Biological Diversity, 2012, pg. 9). In the proposal documents of the Cities IAP, there is explicit mention of alignment with the Paris Agreement and the Covenant of Mayors, a sub-national climate initiative in partnership with the UNFCCC. The UNCCD also considers cities important for their role in migration, which can have both positive and negative impacts on achievement of the Sustainable Development Goals (Hagen-Zanker, Postel, Vidal, 2017).

The Cities IAP is designed according to convention guidance. The important role of cities for climate change mitigation and adaption, biodiversity, and land degradation, is featured heavily in the convention decisions. The GEF expects that the Cities IAP will "create a strong network of cities that will act as global ambassadors for urban sustainability planning" (World Bank, 2015, pg. 7). If this is case after implementation, then the Cities IAP will continue to be in alignment with the norms of the conventions.

Theme	**Synergistic Typology**	**Cities IAP**
Norm Conflict	Core Norms of conventions are expressed to the GEF and are not in conflict; the GEF secretariat is receptive to strategic advice from its Conventions; and the conventions themselves are supportive of integration.	The Cities IAP is designed according to convention guidance. The important role of cities for climate change mitigation and adaption, biodiversity, and land degradation, is featured heavily in the convention decisions.

IA Constellations

The Cities IAP consists of 8 IAs, the World Bank, the UNDP, the UNEP, the African Development Bank, the Asian Development Bank, the Development Bank of Southern Africa, the Inter-American Development Bank, and the United Nations Industrial Development Organization (UNIDO). The World Bank is the lead IA on the program; however, the IEO reports that "the selection of the World Bank as main implementing agency was conducted in a non-transparent manner. The definition of the mandate of the World Bank as lead agency for the Cities IAP, its accountability towards the GEF, and its authority—if any—over the other GEF Agencies in the collective pursuit of the accomplishment of the Cities IAP Program goals and expected outcomes, were never clearly defined, and remain so at the onset of the implementation phase." (IEO, 2017a, pg. 31). Furthermore, there was competition among some of the other multilateral development banks for the lead role. These banks expressed concerns that the nepotism was at play during the selection process, as the GEF maintains a close relationship with the World Bank. Some IAs were also critical of the World Bank's motivation, wondering if it took the lead role to benefit from additional loans to cities.

Issues of transparency, competition for the lead role, and a lack of defined principles that regulate the relationship among the IAs, constitutes an actor constellation that is not in alignment. This could create issues in the implementation phase if the IAs support for the program and the leadership of the World Bank wains, due to disputes over authority and accountability.

That being said, the World Bank is well suited for the role of lead agency for the program. The IEO concludes that, "the World Bank has a definite comparative advantage as GEF's lead agency in the Cities IAP Program, given its overall profile, standing, and engagement both in urban development and in the pursuit of sustainable development and climate action" (IEO, 2017a, pg. 31). The World Banks has an established urban development sector, and years of experiences implementing urban resilience and adaptation projects.

The other IAs involved also have comparative advantages that will lend to the strength of the program. The Asian Development Bank and Inter-American Development Bank "have strong track records and comparative advantages in working on urban sustainability in their respective regions" (IEO, 2017a, pg. 66). The three UN agencies on the program also well suited to the program. The UNIDO "provides focused expertise on the industrial sector and clean industrial production" (*ibid,* pg. 66). The UNEP has past experience working at the intersection of sustainability and cities, such as the Sustainable Cities Programme (UNEP, 2000). Finally, the UNDP also brings with it past experience working in the urban sector and in partnership with the World Bank, such as the Urban Management Programme (UNDP, 2001).

In the STAP screening of the Cities IAP project proposal, the reviewer expressed concerns that the IAs may not achieve successful collective impact. This includes activities such as sharing a common agenda, conducting mutually reinforcing activities, and engaging in frequent communication with one another (STAP, 2015). Certainly, it remains to be seen if the actor constellation will exhibit coordinated or synergistic fragmentation. While the IAs involved carry a surfeit of experience relative to the program, and a collective history of working together; there are noticeable issues with the formal structure of their alliance.

Theme	**Synergistic Typology**	**Cities IAP**
Implementing Agency Constellation	Implementing Agencies are operating to their comparative strengths; Projects that involve more than one IA have satisfactory outcomes; IAs are in alignment with GEF guidance and each other.	Issues of transparency, competition for the lead role, and a lack of defined principles that regulate the relationship among the IAs, constitutes an actor constellation that is not in alignment. While the IAs involved carry a surfeit of experience relative to the program, and a collective history of working together; there are noticeable issues with the formal structure of their alliance.

The Commodities IAP

Agriculture is one of the largest drivers of global deforestation (Boucher, *et al.*, 2011). Within that, three industries—beef, palm oil, and soy—have been identified as the main contributors to deforestation in the 21st century (Hosonuma, *et al.*, 2012). The Commodities IAP seeks to transition these industries, both markets and producers, to a sustainable system of production.

The overall objective of the Commodities IAP is to, "reduce the global impact of agricultural commodities on greenhouse gas (GHG) emissions and biodiversity by meeting the growing demand of palm oil, soy and beef through supply that does not lead to deforestation and deforestation-related GHG emissions" (GEF, 2015b, pg. 2). The program applies a supply chain approach to the beef, palm oil, and soy industries in and will work in both producing countries (Brazil, Liberia, Indonesia, and Paraguay) and demand markets (GEF, 2014).

Convention Integration

The Commodities IAP will work with three of GEF's focal areas: 1) climate change (mitigation), 2) biodiversity, 3) and Sustainable Forest Management (SFM) which is connected to land degradation. These focal areas are operationalized in the into the following focal area objectives (table 10). The Commodities IAP consists of five child projects, and according to the IEO, all five projects adequately refer to these focal area objectives (IEO, 2017a).

Table 10: Focal Area Objectives of Commodities IAP

FOCAL AREA OBJECTIVES	OBJECTIVES
BD-4 PROGRAM 9	Managing the Human-Biodiversity Interface.
CC-2 PROGRAM 4	Promote conservation and enhancement of carbon stocks in forest, and other land use, and support climate smart agriculture.

SFM-1 PROGRAM 1, 2, 3	Maintained Forest Resources: Reduce the pressures on high conservation value forests by addressing the drivers of deforestation.

Note: BD = biodiversity. CC = climate change. SFM = Sustainable Forest Management.
(GEF, 2014, pg. 33; 64; 171)

There is strong integration among the convention objectives (UNFCCC, CBD, and UNCCD) in the commodities IAP, in fact the IEO concluded, "the Commodities IAP Program's focal areas align well with the objectives of the three Rio Conventions" (IEO, 2017a, pg. 80). The IEO also found that the IAP enhances stakeholders' ability to report to multiple conventions (IEO, 2017a).

Additionally, the Commodities IAP is expected to provide "substantial global environmental benefits, including reduced deforestation from agricultural commodity production and associated carbon sequestration, biodiversity conservation and sustainable forest management" (IEO, 2017a, Pg. 80). Considering the well aligned focal areas, and the cross-sectoral global environmental benefits, this IAP demonstrates synergistic elements in terms of convention integration.

Theme	**Synergistic Typology**	**Commodities IAP**
Convention Integration	Conventions are closely integrated with one another through the programmatic structure of the GEF; projects in one area do not harm the objectives of another; projects achieve benefits across multiple conventions; projects are relevant to convention objectives.	Considering the well aligned focal areas, and the cross-sectoral global environmental benefits, the Commodities IAP demonstrates synergistic elements in terms of convention integration.

Norm Conflict

The Commodities IAP blends a diverse set of interventions, such as "agricultural and forest policies, land tenure changes, commodity moratoria to information and technology such as consumer awareness and capacity building" and "incentives such as certifications and commodity standards and tools" (IEO, 2017a, pg. 16). These efforts are intended to conserve biodiversity, protect forests, and bolster climate change mitigation. The IAP aligns well with the norms and decisions established in the conventions, specifically concerned with deforestation, sustainable agriculture production, and sustainable forest management.

Table 4-4: Commodities IAP Links to Multilateral Environmental Agreement

Convention	*Decisions*
UNFCCC	Decision 1/CP.16, REDD+ elements: i) Reducing emissions from deforestation; ii) Conservation of forest carbon stocks.
CBD	Decision X/2, Aichi Biodiversity Targets: i) Target 5. By 2020, the rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced; ii) Target 7 By 2020 areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity
UNCCD	Decision 4/COP.8, Desertification, Land Degradation and Drought and Sustainable Forest Management: Reinforce SFM as a means of preventing soil erosion and flooding, thus increasing the size of atmospheric carbon sinks and conserving ecosystems and biodiversity.

Source: (GEF, 2014, pg. 190)

The GEF expects the program to support the CBD's Aichi Biodiversity targets (5 and 7). Target 5 is concerned with reducing the habitat loss, and target 7 is concerned with sustainably managed agriculture. The program will also contribute to the UNFCCC's REDD+ initiative which seeks to halt deforestation, and utilize forests as carbon stocks. The SFM elements of the program will

contribute to preventing soil erosion and flooding, which aids in the objectives of the UNCCD Decision 4/COP.8 (IEO, 2017a).

Within the Commodities IAP there were no documented incidents of conflict with the conventions. The IEO determined that the GEF met the requirements of conventions, while also designing the IAP to be relevant to the participating countries (IEO, 2017a).

Theme	**Synergistic Typology**	**Commodities IAP**
Norm Conflict	Core Norms of conventions are expressed to the GEF and are not in conflict; the GEF secretariat is receptive to strategic advice from its Conventions; and the conventions themselves are supportive of integration.	There were no documented incidents of conflict with the conventions. The IEO determined that the GEF met the requirements of conventions, while also designing the IAP to be relevant to the participating countries

IA Constellations

The Commodities IAP includes the following five implementing agencies: Conservation International (CI), UNDP, UNEP Finance Initiative (UNEP-FI), World Wildlife Fund (WWF), the World Bank, and the International Finance Corporation (IFC). The UNDP is the lead agency for the IAP. The IEO reports that, "the responsibility of the lead agency, UNDP, was established early on in the project and agreed to by the other agencies" (IEO, 2017a, pg. 82).

According to the IEO, the UNDP has "extensive" experience with all of the governments of the target countries in the IAP, and is considered dependable (IEO, 2017a). The UNDP also has experience in deforestation projects in Paraguay, and commodity experience in Indonesia and Paraguay. The GEF states that it chose the IAs for the Commodities IAP based on comparative advantage, "UNDP brings sectoral transformation and government engagement, CI brings

landscape level conservation management and commodities, WWF brings consumer campaign, market transformation initiative and relationship with companies (e.g. McDonalds), and IFC and UN Environment Finance Initiative bring financial expertise and partnership with the financial services sector (e.g. Rabobank)" (GEF, 2017b, pg. 11).

For most of the five child projects the UNDP works alongside multiple IAs, and assigns responsibilities to each. In a review of the child project implementation arrangements, the IEO found that 1 child project (GEF ID 9617)[7] differs from the rest. The Brazil government specifically requested to limit the agencies it interfaced with on the project to one, thus CI takes on most of the responsibility for implementation. As Brazil demonstrates, working with multiple IA can create higher transaction costs and complexity for governments.

In the Commodities the IA were appropriately chosen due to their comparative strengths. In 4 of the 5 child projects, the UNDP is leveraging the strengths and expertise of multiple agencies in a coordinated manner. However, as the Brazil child project demonstrates, the large number of IA agencies adds additional organizational complexity to the IAP.

[7] Taking Deforestation Out of the Soy Supply Chain in Brazil. https://www.thegef.org/project/taking-deforestation-out-soy-supply-chain.

Theme	**Synergistic Typology**	**Commodities IAP**
Implementing Agency Constellation	Implementing Agencies are operating to their comparative strengths; Projects that involve more than one IA have satisfactory outcomes; IAs are in alignment with GEF guidance and each other.	In the Commodities the IA were appropriately chosen due to their comparative strengths; however, the large number of IA agencies adds additional organizational complexity to the IAP.

The Food Security IAP

The Food Security IAP targets 10 million hectares of arid farmland in 12 Sub-Saharan African countries, in an effort to boost productivity and reduce food productions environmental impact. The food IAP is expected to benefit both ecosystems and the 2-3 million households reliant on the targeted land.

The overall objective of the IAP is to, "Support countries in target geographies for integrating priorities to safeguard and maintain ecosystems services into investments improving smallholder agriculture and food value chains" (GEF, 2015c, pg. 2). The IAP will accomplish this through initiatives to improve land quality for both farms and ecosystems alike.

Convention Integration

The Food Security IAP works across three GEF focal areas: 1) biodiversity, 2) land degradation, and 3) and climate change. There are thirteen child projects, and 11 of projects respond to focal area objectives (table 4-4). All thirteen projects have objectives and outcomes for land degradation. Eight projects cover biodiversity, and six cover climate change. Five child projects cover all three focal areas (IEO, 2017a). According to the IEO, the IAP and child projects, "contain appropriate outcomes and indicators, designed to contribute to multiple [Global Environmental Benefits] across GEF focal areas" (IEO, 2017a, pg. 98).

In terms of convention objectives, the Food Security IAP contributes directly to the UNCCD's 10-year Strategic Plan (2002-2018). Specifically, the IAP is "expected to contribute to the operational objectives of the 10YSP on: (i) policy framework; (ii) science, technology and knowledge; and (iii) financing and technology transfer" (IEO, 2017a, pg. 99). Moreover, all 13 child projects are in alignment with each of their respective country's national action programs for combating desertification (IEO, 2017a).

Table 4-5: Food Security IAP and Child Project Focal Objectives

FOCAL AREA OBJECTIVES	OBJECTIVES
BD-3 PROGRAM 7; BD-4 PROGRAM 9	Securing Agriculture's Future: Sustainable Use of Plant and Animal Genetic Resources; Managing the Human-Biodiversity Interface.
CC-2 PROGRAM 4	Promote conservation and enhancement of carbon stocks in forest, and other land use, and support climate smart agriculture.
LD-1 PROGRAM 1, 2; LD-3 PROGRAM 4; LD-4 PROGRAM 5	Agro-ecological Intensification, and SLM for Climate-Smart Agriculture; Scaling-up sustainable land management through the Landscape Approach; Mainstreaming SLM in Development.

Note: BD = biodiversity. CC = climate change. LD = land degradation
(GEF, 2014, pg. 28, 33, 64, 137, 138, 142, 144)

For CBD, the IAP contributes to the CBD Strategic Plan for Biodiversity 2011-2020, and Aichi Target 7 on sustainable agriculture (IEO, 2017a). Child projects were also found by the IEO to be in line with the target countries' National Biodiversity Strategies and Action Plans (2017c).

The UNFCCC priorities on climate issues related agriculture are considered in the IAP. This includes reducing emissions related to land use, and addressing the vulnerabilities to agriculture form climate change. Furthermore, the child projects, "are expected to respond to priorities identified in their national communications to UNFCCC" (IEO, 2017a, pg. 99).

Theme	**Synergistic Typology**	**Food Security IAP**
Convention Integration	Conventions are closely integrated with one another through the programmatic structure of the GEF; projects in one area do not harm the objectives of another; projects achieve benefits across multiple conventions; projects are relevant to convention objectives.	The Food Security IAP responds to convention priorities, including the Strategic Plan of both the UNCCD and CBD. The IAP is characterized by a high amount of focal area objectives across biodiversity, climate change, and land degradation.

Norm Conflict

While the Food Security IAP responds to convention decisions and objectives related to agriculture (table 4-5), not all of the related conventions responded positively to the IAP. The UNFCCC Secretariat responded critically to the Food Security IAP. Staff that was interviewed by the IEO responded that they "found the whole IAP concept difficult to understand and failed to see why it is necessary" (IEO, 2017a, pg. 100). According to the IEO, UNFCCC staff is generally skeptical of integrated and multifocal approaches by the GEF. That said, the COP guidance from the UNFCCC is comparatively thin, "leaving the GEF significant interpretative freedom" (IEO, 2017c, pg. 10).

IEO interviews with CBD were less critical about the Food Security IAP; however, staff expressed confusion about the connection between food security and biodiversity, land degradation, and climate change.

The UNCCD Secretariat responded positively to the Food Security IAP. The UNCCD views land as central to all environmental issues, and supports an integrated approach that provides common reporting to all three conventions (IEO, 2017a).

Table 4-6: Food Security IAP Links to Multilateral Environmental Agreements

Convention	*Decisions*
UNFCCC	Decision 4/CP.23 *Koronivia joint work on agriculture*: working with constituted bodies under the Convention and taking into consideration the vulnerabilities of agriculture to climate change and approaches to addressing food security.
CBD	The CBD recognizes the critical importance of conservation and sustainable use of biological diversity for agriculture and food security. The convention currently has a Strategic Plan for Biodiversity, including the Aichi Biodiversity Targets covering the period 2011–2020.
UNCCD	The UNCCD text explicitly mentions links between desertification, drought, and lack of food security. The Convention currently has a Ten-Year Strategy and Action Plan (2008 – 2018) that aims to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought.

(GEF, 2014, pg. 195)

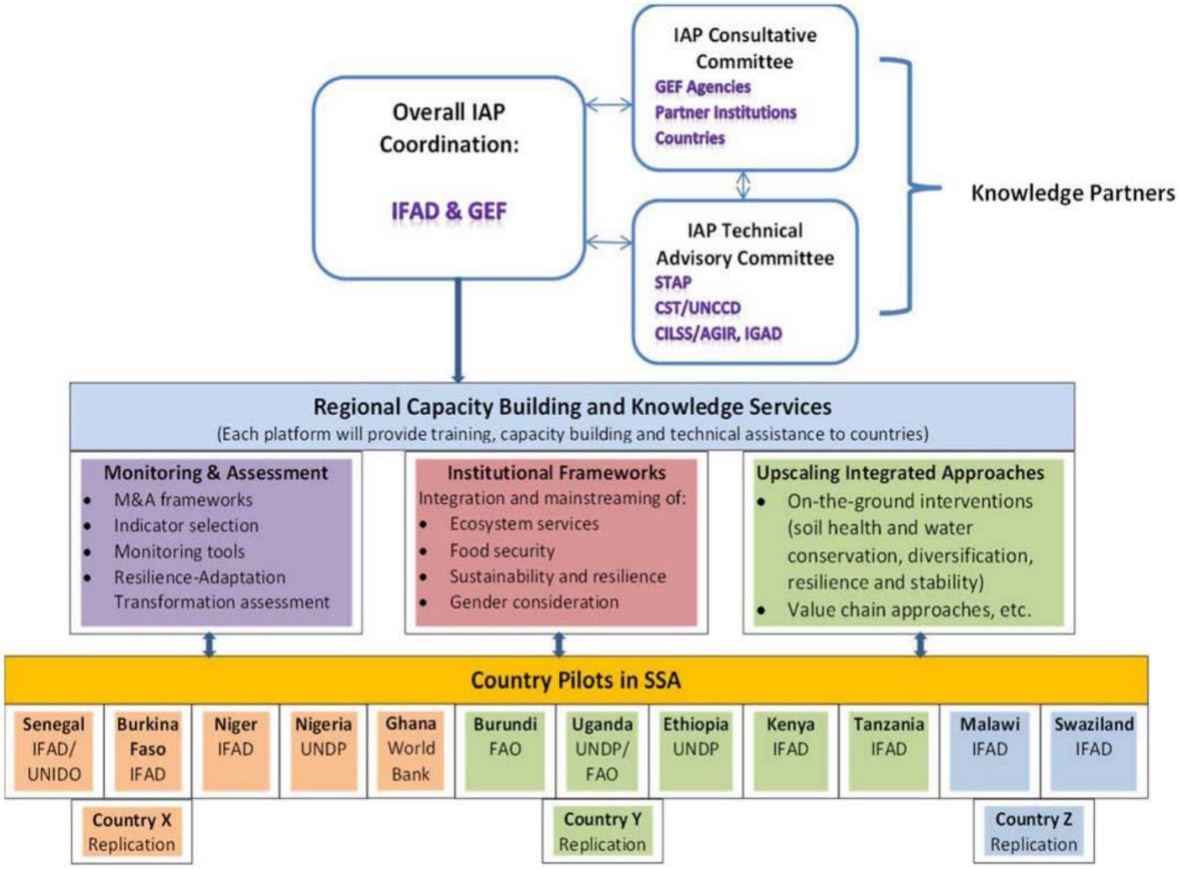
Convention reservations about the Food Security IAP were expressed to the GEF, and there is conflicting opinion among the secretariats of the UNFCCC and CBD about the usefulness of an integrated programmatic approach. This IAP does not demonstrate universal convention acceptance of integration.

Theme	**Synergistic Typology**	**Food Security IAP**
Norm Conflict	Core Norms of conventions are expressed to the GEF and are not in conflict; the GEF secretariat is receptive to strategic advice from its Conventions; and the conventions themselves are supportive of integration.	There is conflicting opinion among the secretariats of the UNFCCC and CBD about the usefulness of an integrated programmatic approach for food security. This IAP does not demonstrate universal convention acceptance of integration.

IA Constellations

The Food Security IAP consists of five IAs: the International Fund for Agricultural Development (IFAD), the Food and Agriculture Organization (FAO), the UNDP, the United Nations Industrial Development Organization (UNIDO) and the World Bank. IFAD operates as the lead agency on the program. According to the IEO, all GEF agencies are in agreement with IFAD's leadership on the IAP. Comparative advantages of IFAD include its ability to offer co-financing, as well as its technical experience and institutional capacity (IEO, 2017a).

Figure 4-9: Food Security IAP IA Arrangement



The IEO found that the Food Security IAP is operated by a large amount of IAs and executing partners (figure 4-9) and, "By and large, they are individually well qualified, but their number

increases the multitude of institutional preferences and the complexity of planning, coordination and arriving at common and synergistic approaches (2017c, pg. 106). While at the onset of the IAP, the IAs are aligned and operating to their comparative strength; the IEO's warning about institutional complexity could affect the overall effectiveness of the program.

Theme	**Synergistic Typology**	**Food Security IAP**
Implementing Agency Constellation	Implementing Agencies are operating to their comparative strengths; Projects that involve more than one IA have satisfactory outcomes; IAs are in alignment with GEF guidance and each other.	While at the onset of the IAP, the IAs are aligned and operating to their comparative strength; the IEO warns about institutional complexity that could affect the overall effectiveness of the program.

5. Discussion

To revisit, the main research question that guided this thesis was concerned with the GEF's impact on the fragmentation of the MEAs from which it is formally connected to. These were the CBD, UNFCCC, UNCCD, Stockholm and Minamata conventions, with the analytical scope delimited to the CBD, UNFCCC, and UNCCD.

> *RQ: Does the GEF operate as a coordinating entity among the MEAs it services in a manner that is impactful on fragmentation?*

The fragmentation of the MEAs was characterized by a typology based on definitions derived from fragmentation literature. It was conceived that projects, which are undertaken to implement the objectives of the MEAs, impact the state of fragmentation. This is supported by the fact that GEF projects catalyze the actions of a wide range of international organizations in the environmental regime, from the UNEP to the WWF. Projects are also able to reflect the norms of the conventions when they are designed according to convention guidance. Additionally, when a convention outlines a set of objectives, such as the Aichi Biodiversity Targets of the CBD, they are accomplished through the funding of environmental projects that seek to execute those same objectives.

In other words, projects that integrate convention objectives, align with convention norms, and unify the support of relevant actors, contribute to a synergistic typology of MEA fragmentation. Whereas, single-focus projects that only benefit a single convention move MEA fragmentation towards a conflictive state. To operationalize this, a quantitative assessment was conducted on the frequency of integrated programming. This was due to the fact that integrated programing seeks to create environmental benefits in multiple regimes with a single intervention. However, such an assessment would be incomplete without studying the linkages between integrated programing and synergistic fragmentation. Thus the sub-questions addressed the rate of

integration at the GEF, and the ability of integrated programing to enhance synergies among the MEAS:

> *Sub-question 1: What is the rate of change at the GEF for projects that target multiple conventions?*
> *Sub-question 2: Are the GEF's integrated programs enhancing synergies among the GEF's conventions?*

Quantitative Discussion

In regards to sub-question 1, the frequency analysis of the GEF and Bilateral portfolios provided the following findings:

Finding 1: Funding for multi-focal projects is increasingly rapidly at the GEF; this phenomenon is not occurring among bilaterally funded projects.

Funding for multi-focal projects is increasingly rapidly in the GEF—from 2% of the total budget in GEF-3 to 39% in GEF-6—this is in sharp contrast to bilateral funding streams, which increased by approximately 10% during the same time frame. If the trend continues, integrated programming will make up the lion's share of funding for the GEF portfolio in future replenishments. This demonstrates that the GEF is committed to investing heavily in integrated programming. The MFA projects are hardly a sideline venture for the institution, but rather, integrated programming is becoming a predominant means for implementation at the GEF. This aligns with the GEF's 2020 Strategy which prioritizes delivering integrated solutions, addressing the drivers of environmental degradation, and achieving synergies (GEF, 2015a).

Finding 2: The total number of multi-focal projects is increasing at higher rate at the GEF compared to bilateral funding streams.

The number of multi-focal GEF projects is also growing, by around 50% per replenishment. About one quarter of projects under GEF-6 are multi-focal. The most common focal area arrangements are biodiversity and land degradation (54%), and biodiversity, land degradation, and climate change (27%) (IEO, 2018).

Bilaterally funded projects have not seen the same increase. From 2002 to 2016 the multi-focal portion of the portfolio increased 9.93%, with wide yearly variation. That being said, 38.53% of the bilateral portfolio in 2016 was marked as multi-focal. It is important to emphasize that multi-focal projects in the OECD bilateral funding data are not the same as multi-focal projects at the GEF. The Rio markers are reported by donor countries, and were developed as a way to identify activity relevant to the Convention objectives. While there are standard criteria for demarcating the Rio markers, the projects do not follow the same strict MFA design guidelines as GEF projects.

MFA projects at the GEF are required to generate environmental benefits for every focal area that it receives funding for. They are also required to respond to convention guidance, and to achieve measurable focal area objectives. The majority of multi-focal projects, 74%, are designed to implement integrated ecosystem management, landscape-based management, or a combination of the two. Additionally, 43% of projects utilize sustainable forest management, and sustainable land management to address agriculture and deforestation (IEO, 2018). According to a 2018 IEO evaluation of the MFA portfolio, at least 79% of MFA projects respond directly to convention guidance, and “the large majority of completed MFA projects report achievement of multiple benefits and broader adoption by project end” (pg. 60).

It is a positive development for MEA synergy to see that the portion of multi-focal projects in both the GEF and among bilateral funding is increasing. Furthermore, the fact that integration is occurring at a higher rate at the GEF as compared to bilateral funding means that this trend at the GEF for increasingly integrated programming is due, in no small part, to the guidance of the GEF secretariat and its partners. It is not simply indicative of overall environmental project

architecture shifting towards multifocal approaches. If that were the case, the frequency of integrated programing at the GEF would not be increasing at such a rapid rate as compared to bilateral sources. Additionally the increases in the GEF's integrated programming correspond to specific interventions from the GEF, such as the OP12 guidance in GEF-3 that sparked programming for multiple benefits, the introduction of the MFA category in GEF-4, and the IAPs in GEF-6.

These findings answer sub-question 1. The number of, and funding for projects that target multiple conventions is increasing at the GEF. This is the first step in answering the main research question, *does the GEF operate as a coordinating entity among the MEAs it services in a manner that is impactful on fragmentation?* The results of the quantitative analysis demonstrate that the GEF is indeed operating as an entity that increasingly deploys integrative approaches. The next sub-question examines the effect of integrated programing on the fragmentation of the MEAs.

Qualitative Discussion

The case studies examined three integrated pilot programs to better understand if integrated programing enhances synergies among the MEAs. The case studies reviewed the Cities, Commodities, and Food Security IAPs according to Convention Integration, Norm Conflict, and IA Constellations—derived from Biermann et al.'s (2009) typology of fragmentation. Table 5-1 summaries the results for Convention Integration.

All three IAPs demonstrated synergistic qualities for convention integration. The IAPs are somewhat unique in that they are designed as programs, not individual projects. Each program has several child projects that distribute the objectives of the IAP across multiple focused initiatives. The large majority of the child projects in the IAPs contain focal area objectives that align with the conventions: in the Cities IAP, 92% of the projects; all five of the Commodities projects; and 85% of the food security projects. An advantage of the IAPs is their ability to target multiple MEAs, while remaining in alignment with the priorities of countries where they are

implemented (IEO, 2017a). A 2017 survey conducted by the IEO on IAP in-country stakeholders found that, "ninety-three percent of respondents agreed that the IAP programs help to address the Conventions across multiple scales." (IEO, 2017a, pg. vii). Additionally the IAPs are designed to achieve environmental benefits across their associated focal areas while preventing negative spillover. This ensures integration among the regimes involved.

Convention Integration	**Conventions are closely integrated with one another through the programmatic structure of the GEF; projects in one area do not harm the objectives of another; projects achieve benefits across multiple conventions; projects are relevant to convention objectives.**
Cities IAP	The Cities IAP and its child projects operationalize focal area objectives that are in alignment with convention objectives, and achieve environmental benefits across multiple conventions.
Commodities IAP	Considering the well aligned focal areas, and the cross-sectoral global environmental benefits, the Commodities IAP demonstrates synergistic elements in terms of convention integration.
Food Security IAP	The Food Security IAP responds to convention priorities, including the Strategic Plan of both the UNCCD and CBD. The IAP is characterized by a high amount of focal area objectives across biodiversity, climate change, and land degradation.

Table 5-1: Convention Integration Results

The Norm Conflict category did not demonstrate the same universal adherence to the synergistic typology. While the GEF was receptive to convention guidance on the IAPs, there was not agreement among all of the conventions that an integrated program was the appropriate approach for the Food Security IAP. For instance, the UNFCCC and CBD expressed doubts over the usefulness of the IAP. The UNFCCC communicated to the IEO that it sees integrated approaches as being best pursued as projects, not programs. Additionally, the UNFCCC went as

far as to speculate that the GEF's pursuit of the IAPs might be resource driven and not based on science. The CBD expressed that it had difficulties understanding how biodiversity relates to food security, climate change mitigation and land degradation. The UNCCD, however fully supported the Food Security IAP (IEO, 2017a).

Norm Conflict	**Core Norms of conventions are expressed to the GEF and are not in conflict; the GEF secretariat is receptive to strategic advice from its Conventions; and the conventions themselves are supportive of integration.**
Cities IAP	The Cities IAP is designed according to convention guidance. The important role of cities for climate change mitigation and adaption, biodiversity, and land degradation, is featured heavily in the convention decisions.
Commodities IAP	There were no documented incidents of conflict with the conventions. The IEO determined that the GEF met the requirements of conventions, while also designing the IAP to be relevant to the participating countries
Food Security IAP	There is conflicting opinion among the secretariats of the UNFCCC and CBD about the usefulness of an integrated programmatic approach for food security. This IAP does not demonstrate universal convention acceptance of integration.

The GEF is in close communication with the secretariats of MEAs it services. The GEF Instrument[8] instructs that the GEF "shall function under the guidance of, and be accountable to, the

[8] Global Environment Facility (2015). *Instrument for the establishment of the restructured Global Environment Facility*. Facility. https://www.thegef.org/sites/default/files/documents/GEF_Instrument-Interior-March23.2015.pdf

Conference of the Parties which shall decide on policies, program priorities and eligibility criteria" (GEF, 2015b, pg. 13). During the proposal phase for each replenishment, the GEF invites all convention secretariats to provide the GEF Secretariat with convention-specific feedback on the proposed programming directions (GEF, 2017a). Additionally, as part of the GEF's Memorandum of Understanding (MEU) with the convention secretariats, the GEF also prepares a report of its relevant activities for every ordinary meeting of the COPs. The GEF secretariat looks to the MEAs for guidance, and considers alignment with the MEAs to be an advantage. A 2017 survey conducted by the IEO found that 91% of respondents agreed that a comparative advantage of the GEF was its alignment with the MEAs (IEO, 2017b).

According to the GEF, "The need for synergies derives directly from the conventions themselves. The key environmental conventions largely highlight the linkages that exist between their respective objectives and the desire to maintain cost-effectiveness through joint implementation arrangements" (GEF, 2014, pg. 174). The following table (5-1) outlines guidance on synergies from four conventions. In each instance, there is clear direction for an integrated approach. For example, in the guidance provided by the CBD, the ecosystem approach is solicited. The ecosystem approach is "a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way" (CBD, 2004, pg. 6).

Guidance, however, is not always clear due to vague language, lack of clear priorities, and repetition (IEO, 2017c). Guidance among the conventions is also not equal in its quality. The GEF receives very technical and explicit guidance from the CBD, but sparse and ambiguous guidance from the UNFCCC (*ibid*). A lack of articulate guidance from a convention is a barrier to norm alignment. As the IEO OPS6 concludes, "operationalizing convention guidance can sometimes be challenging" (IEO, 2017c, pg. 11). Norm conflict can continue to be improved among the GEF and its conventions.

Table 5-2: MEA Guidance to GEF on Synergies (Source: GEF, 2017d, pg. 5-8)

Convention on Biological Diversity (CBD)	"Encourages Parties to promote synergies between biodiversity and climate-change policies and measures" (decision XI/21)
	"Capacity-building with the aim of increasing the effectiveness in addressing environmental issues through their commitments under the CBD, UNFCCC, and the UNCCD, inter alia, by applying the ecosystem approach"
	"Developing synergy-oriented programmes to conserve and sustainably manage all ecosystems, such as forests, wetlands and marine environments, that also contribute to poverty eradication" (decision X/24)
UN Framework Convention on Climate Change (UNFCCC)	"Encourages the Global Environment Facility […] to align […] programming with […] nationally determined contributions, where they exist, during the seventh replenishment, and to continue to promote synergies across its focal areas." *NDCs contain language on biodiversity, ecosystems, and land degradation.
	"Requests the Global Environment Facility […] to take into consideration climate risks in all its programmes and operations […]." (decision 11/CP.22)
UN Convention to Combat Desertification (UNCCD)	"Invites the GEF to continue its support for the implementation of the convention […] in light of the 2030 Agenda for Sustainable Development, in particular target 15.3"
	"Invites the GEF to […] consider technical and financial support for voluntary national land degradation neutrality target-setting"
	"Invites country Parties to formulate and integrate in their National Adaptation Plan voluntary targets to achieve LDN in accordance with their specific national circumstances and development priorities." (COP 12)

The IA Constellations category provided mixed findings for the three IAPs. Notably, there was competition among agencies vying for the lead role in the Cities IAP, and the GEF exasperated this situation with the less-than-transparent manner in which it appointed the World Bank as the lead agency. Additionally, the IAs involved complained of a lack of a formally defined relationship between them for work on the ground. This demonstrates a key area for improvement in the alignment of the IAs. As Tengberg & Valencia (2018) point out, "to foster functioning partnerships, setting clear rules for engagement and interaction is as relevant at the international and regional levels as it is at the local level." (pg. 1856). IAs often collaborate on projects, sharing

their expertise and strengths to achieve GEF objectives. The GEF encourages this inclusive approach to project implementation, and has created an interagency committee to facilitate IA collaboration, and has authored principles of cooperation as a means for operationalizing the integration of IAs (GEF, 2017b).

While all of these efforts are necessary, as the Cities IAP demonstrates, more work is needed to improve IA alignment. In the most recent rounds of negotiations for GEF-7, the 55th GEF Council Meeting, the secretariat outlined practical steps to improve the workflow between the GEF secretariat, the IAs, and participating countries. These ranged from setting business standards to improve coordination between the IAs, to convening recurring tele-conferences and retreats with IAs to discuss workflow and operations (GEF, 2018b).

IA Constellations	**Implementing Agencies are operating to their comparative strengths; Projects that involve more than one IA have satisfactory outcomes; IAs are in alignment with GEF guidance and each other.**
Cities IAP	Issues of transparency, competition for the lead role, and a lack of defined principles that regulate the relationship among the IAs, constitutes an actor constellation that is not in alignment. While the IAs involved carry a surfeit of experience relative to the program, and a collective history of working together; there are noticeable issues with the formal structure of their alliance.
Commodities IAP	In the Commodities the IA were appropriately chosen due to their comparative strengths; however, the large number of IA agencies adds additional organizational complexity to the IAP.
Food Security IAP	While at the onset of the IAP, the IAs are aligned and operating to their comparative strength; the IEO warns about institutional complexity that could affect the overall effectiveness of the program.

As the GEF does not implement projects itself, it relies on harnessing the comparative advantages of its IAs. The number of IAs has grown since the start of the GEF's 1991 pilot phase. In the beginning, the GEF partnered with just three agencies, the United Nations Development Programme (UNDP), the United Nations Environmental Programme (UNEP), and the World Bank (or, International Bank for Reconstruction and Development—IBRD) . The well-established nature of these IAs helped the young GEF to quickly scale-up and implement its initial 1 billion USD budget.

Since 1991 the GEF has continued to increase the number and diversity of its IAs. Each of the 18 IAs brings its own unique advantages to the GEF. This blend of comparative strengths helps to bolster the GEF and compensate for areas where an individual IA might be lacking. For instance, the UNEP is known for its environmental expertise, but it is criticized for its capacity for country-level implementation (Ivanova, 2005). Conversely, the UNDP excels at country-level implementation (Graham & Thompson, 2014), but does not have the same level of environmental know-how as the UNEP. The GEF has been designed with a "division of labor model in which each intermediary would perform duties according to its respective comparative advantage" (Graham & Thompson, 2014, pg. 130).

In general, the IEO concluded that the IAPs are operating on the comparative strengths of the IAs involved, but the large number of actors involved creates issues of complexity (IEO, 2017a). The IAPs require the involvement of more IAs and actors than traditional, single-focus projects. In order to manage the complex nature of the IAP programs, GEF IAs are required to coordinate with one another, "the IAPs are, to some extent, facilitating cooperation and synergies based on Agency comparative advantage" (IEO, 2017b, pg. 4). However, this increased complexity also brings to several challenges to both the IAPs and MFA programing.

Overall, the IAPs demonstrated synergistic convention integration, however the norm conflict and IA constellations categories were not as clearly aligned with the synergistic typology. In norm

conflict, improvements in the communication between the conventions and the GEF is needed, both in the quality of guidance provided by the conventions, and in increasing transparency at the GEF for its programing decisions. The IA constellations can also be better aligned with formalized standards between the agencies and the GEF, and more transparency over selection process for key roles such as lead agencies. As the number of IAs has grown over the years, the process of facilitating coordination between them requires more effort from the GEF.

In general, IAPs and MFA projects are more complex to design and implement. This complexity stems from both transactional and operational challenges (IEO, 2017b). Transactional challenges relate to the involvement of more countries, stakeholders, and actors from various sectors that must be consulted, both during design and implementation. Additionally, the GEF must seek guidance from the related conventions (*ibid*).

Integrated programming also creates issues of operational complexity, in terms of increased demands on monitoring and data collection. IAs are required to prepare separate tracking tools for each focal area of a given MFA. This inherently leads to higher design time and funding costs. In the principle conclusions of the IEO's (2017a) review of the IAPs, the IEO found that the IAPs suffered from institutional complexity, competing tracking tools and indicators, and a lack of clarity on the roles between the secretariat and the IAs involved. All of these factors lead to projects that require more resources and capacity to implement. Complexity affects the management, outcomes, efficiency of the programs (IEO, 2017c).

Nevertheless, integrated programing is still a worthy pursuit, thanks to the increased outputs and synergies it provides. A 2017 report conducted by the GEF secretariat found that (in regards to the Food Security IAP), "The IAP is reinforcing the commitments of the participating countries to implement the conventions (specifically UNCCD, CBD, and UNFCCC) in an integrated manner that maximizes synergies and generates multiple global environmental benefits across conventions." (GEF, 2017b, pg. 4). If the GEF can continue to iterate on their integrated programing

architecture, while harnessing the recommendations provided by the IEO and the STAP, the potential impact of IAPs and MFAs on MEA fragmentation can be increased even further.

To address sub-question 2, integrated programing has a positive effect on MEA fragmentation, as it aligns the objectives of multiple conventions while managing negative spillover. As such, the IAPs are on track to deliver synergies among their conventions. However, issues reported in the norm conflict and IA constellations categories lessen the potential impact of the IAPs. Improved coordination on the part of the GEF secretariat can work to alleviate these issues, and further enhance the synergies among the MEAs.

Synthesis

Taken together, this research is a foray into practical applications of the Biermann et al.'s (2009) framework. The results demonstrates that the typology of fragmentation can be applied to projects initiated by financial mechanisms. A potential application as such is to create guidance concerned with the navigation of fragmentation for organizations such as the GEF and convention secretariats. One way in which the GEF operationalizes guidance, is to incorporate it into measurable program objectives, which can be monitored and evaluated. Whereas the Biermann et al. (2009) typology creates an important first step in establishing the degrees of fragmentation, this research applies these typologies to programs to assess their impact on MEA fragmentation. There is more research needed in order to distill these concepts—such as convention integration, norm conflict, and implementing actor constellation—into quantifiable indicators; however, this research concludes that synergies between environmental projects and MEAs matter and can be identified through the framework.

There is a need for more literature to bridge the gap between fragmentation theory and practical applications concerned with managing it. Fragmentation is complex. It difficult to measure, to understand its causes and consequences, and to develop responses (Zelli & van Asselt, 2013). In the management of fragmentation, Zürn & Faude conclude that the challenge is not so much in

reversing fragmentation, “but to gradually develop and expand adequate coordination mechanisms that reflect the deeply pluralist structure of world society” (2013, pg. 128). The results of this thesis contribute to the broader literature on fragmentation by establishing that the GEF is such a coordination mechanism among MEA fragmentation. Furthermore, much of the focus of fragmentation theory thus far has been on institutional fragmentation; this research finds that projects are one vehicle in which conventions can address their functional overlap. It is here, that I propose that governance scholars take a close examination of both financial mechanisms and projects that are woven between institutional interlinkages.

When discussing fragmentation among MEAs, it is also important to mention the United Nation Sustainable Development Goals (SDGs) and their significance as an integrated approach to development. The GEF is cognizant that, while it is not the financial mechanism for the SDGs, the work programs of the GEF have the potential to contribute to the SDGs (GEF, 2014).

The cross-cutting nature of the integrated programming at the GEF has the potential for delivering multiple benefits across several of the SDGs (figure 5-1). The IAPs were designed to “overcome focal area silos and build on the necessary linkages that help achieve sustainable development goals” (GEF, 2014, pg. 173). For instance, while the Cities IAP has a direct connection to SDG 11, the program also contributes to SDGs 3, 6, 7, 8, 9, and 13 with initiatives “in areas like low-carbon public transport, clean water, green buildings and other interventions designed to reduce air pollution and greenhouse gas emissions, and promote resource efficiency, ecosystem and biodiversity protection, and climate resilience” (GEF, 2015e, pg. 9).

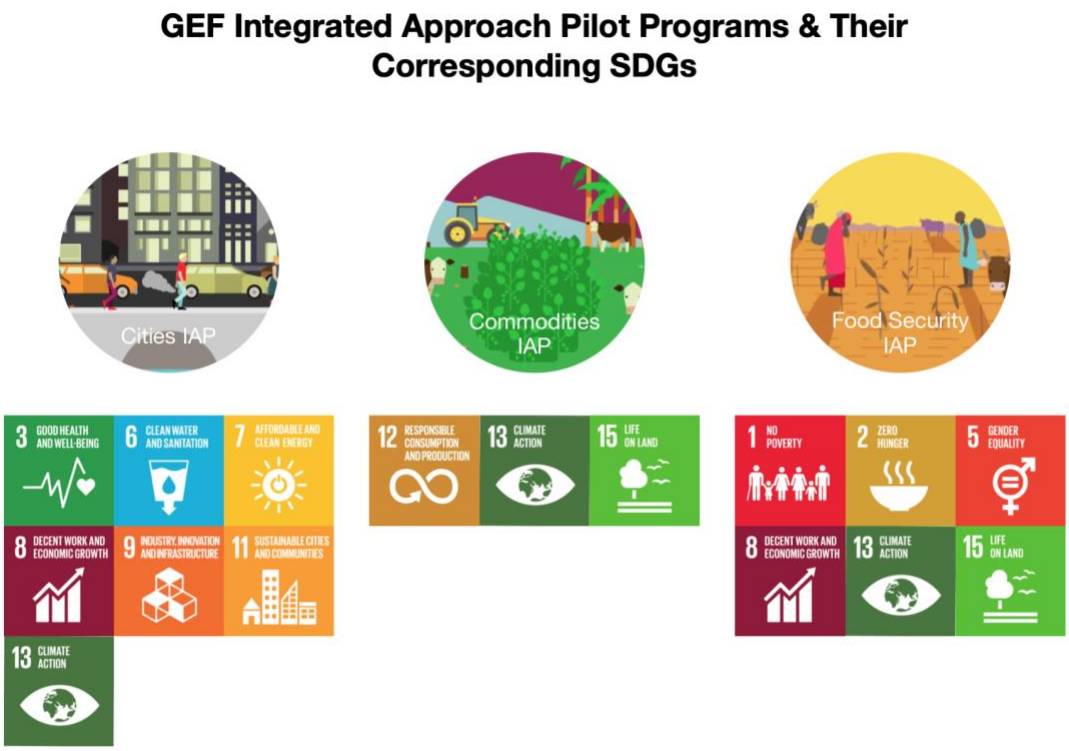


Figure 5-1: IAP Coverage of the SDGs[9]

The mobilization of GEF funds undoubtably contributes to the objectives of several of the SDGs. This, however, was not the focus of the analysis of this thesis. The SDGs, rather, represent an additionality to the programing of the GEF. Programming that is increasingly more integrated in scope. As integrated programing impacts synergies among the MEAs, it should also impact synergies among the SDGs. Analyzing the GEF's impact on SDG integration and implementation is an avenue for future research.

[9] GEF IAP graphics source: GEF Food Security Program-Infographic, GEF Secretariat, 2018; SDG graphics source: UN Sustainable Development Goals Knowledge Platform (retrieved March, 2019).

Limitations

It is important to note that the IAPs were introduced in GEF-6 (2014—2018) and it will take several more years to realize the full impact of the programs. The analysis, therefore, focused on the design and launch of the IAPs. An ex post review of the IAPs would provide additional information in terms of the specific focal objectives achieved, the resolution of norm conflicts, and the overall operational efficiency of the IAs involved. That being said, the IAP strategy has been embraced by the GEF, and incorporated into GEF-7 as "impact programs", progressing past the "pilot" moniker. These impact programs will further the objectives of the IAPs, and target food systems and land use, sustainable cities, and sustainable forest management.

Another limitation in the quantitative analysis was the OECD DAC Rio markers themselves. While the markers have broad overlap with several of the GEF focal areas, they are reported by the individual donor countries with a system that is not analogous to the reporting system of the GEF. For example, the GEF requires that projects who report multiple focal areas to achieve objectives in those focal areas. This is tied directly to the funding streams of the GEF, for a portion of funding is distributed according to focal area allocations. Therefore a project that receives biodiversity and climate change funding, must achieve results for those focal areas. In contrast, the OECD provides guidelines for reporting on biodiversity, climate change, and land degradation objectives. These can either be the primary or secondary motivation of the project to receive a Rio marker. It is, however, up to countries to demarcate whether the focal area is a primary or secondary objective. This process is not tied to funding allocations, and does not follow the strict guidelines of GEF projects. The difference between these two reporting schemes lessens the weight of the results of a comparative analysis between bilateral integration and GEF integration.

Additionally, measuring integration by the amount focal objectives per project, as was done with the integration factor in the analysis, is a relative weakness in this research. An important assumption in the research is that a multi-focal projects are more beneficial to regime integration than single-focus projects. Certainly, in GEF documents the secretariat mentions the need to

work outside of focal area silos; however, the analysis might have been improved with interviews with the GEF, IEO, and STAP staff. Fragmentation of the MEAs as a metric is not measured by GEF or its connected bodies. That being said, to develop a more accurate indicator for the GEF's impact on MEA fragmentation would require consultation with these groups. Further research connecting the GEF to MEA fragmentation would be benefited by more internal contact with the GEF and its IAs. Then a more accurate method for measuring the GEF's impact on MEA fragmentation could be deployed.

The findings in of the quantitative analysis show that rate of integration of focal areas in GEF projects is increasing. This, in combination with an examination of the IAPs using the lens of the Biermann et al. (2009) framework for fragmentation, led to the conclusion that the GEF enhances synergies among its conventions, and is increasing its capacity to do so with each replenishment. A rival explanation to this occurrence is provided by one of the very same conventions—the UNFCCC. Whereas I interpreted the IAPs as a step towards increasing synergies among the conventions, the UNFCCC secretariat was more critical of the programmatic approach. They view such a large, heavily funded program as unnecessary. Instead they believe that integrated approaches are better handled as projects, not programs. The UNFCCC went as far as to speculate that the IAPs were pursued due to motivations to increase resources at the GEF, instead of being scientifically and technically driven (IEO, 2017a). UNFCCC's criticism must be framed in the larger context of their changing relationship with the GEF. With the advent of the Green Climate Fund, the climate regime has become less dependent on the GEF as a financial mechanism. In fact, in GEF-7, climate change was the only focal area to decrease in funding from GEF-6. Additionally, guidance provided to the GEF by the UNFCCC has been characterized as consistently sparse and vaguely worded. In contrast to the biodiversity regime, which is largely dependent on the GEF as key source of funding, and whose convention has improved its guidance to the GEF over the years (IEO, 2018), the climate regime demonstrates movement away from the GEF partnership. This increasing distance between the UNFCCC and the GEF could explain why the UNFCCC secretariat displays unfamiliarity with the scientific underpinning of the IAPs. The STAP has been a vocal

advocate of integrated approaches based on systems thinking (Bierbaum et al., 2018). In contrast to the UNFCCC's skepticism, the IAPs *are* scientifically driven, and their theory of change have been vetted and approved by an outside scientific and technical council. Thus, I place little weight in the UNFCCC's review of the IAPs, and instead stand by the assessment that the IAPs are synergizing the MEAs.

6. Conclusion

Through an increasing focus on integrated approaches, the GEF is achieving results across its conventions. The GEF is increasing synergies of its associated MEAs with the coordination of both convention objectives and multiple international organizations tasked with achieving these objectives. There are, however, gaps in the communication between the GEF and its conventions, affecting norm conflict; and a need for enhanced standardized procedures between IAs, affecting actor alignment.

The GEF is a financial instrument in service of its five international environmental conventions. The GEF receives its strategic guidance from its conventions, and the GEF council then converts the guidance it receives into operational criteria for GEF projects. Since the GEF is formally connected to five conventions, it provides a unique platform for the conventions to align their environmental objectives. It also proves to be quite challenging to manage competing objectives and ideas on operational trajectories for the GEF. While the GEF must continue to be responsive to convention feedback, it also must confront guidance that is either difficult to operationalize or substantively lacking, "in order to perform effectively its role in consolidating functional aspects of the MEAs and of the Implementing Agencies, the GEF needs sufficient autonomy and authority to both promote synergies and avoid conflicts amongst competing interests and objectives" (Werksman, 2004, pg. 6). The case study demonstrated that there was disagreement among the UNFCCC and CBD secretariats and the GEF on the use of large programs in the IAPs. Since the IAPs are continuing as impact programs in GEF-7, it is recommended that constructive conversations between the GEF and the conventions on the merits of integrated programs occur,

in order to alleviate norm conflict. It is also recommended that the GEF establish internal policy detailing the exact roles and responsibilities of agencies involved in impact programs. The operational and transaction complexity of integrated programs can be improved with clear guidelines for agency partnerships.

The findings of this thesis have particular relevance to the GEF itself. Institutional fragmentation of the MEAs can lead to hurdles in achieving their respective objectives. It's important to reiterate that fragmentation is not pejorative. It is the dominant state of international governance, and it is a key feature of an increasingly complex world (Zürn & Faude, 2013). Issues arise when fragmentation gives way to conflict between regimes. Thus the main concern is with type of fragmentation between regimes, with synergistic fragmentation being the ideal state. Synergizing the MEAs leads to less duplication of work, less competition of resources, and fewer instances of negative spillover. The GEF, itself, is a bridge between its conventions. The manner in which it designs and executes projects, affects the typology of fragmentation among its MEAs. Just as the GEF monitors and evaluates the results of its programs, it should also design indicators for measuring the synergies it provides to the MEAs. Synergistic fragmentation can be inferred through measurements of integrated programming, complimented by indicators rooted in fragmentation theory. Indicators based on convention integration, norm conflict, and actor constellations would serve to inform both the GEF and the conventions of the substantive benefit of their partnership in reducing conflictive fragmentation.

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