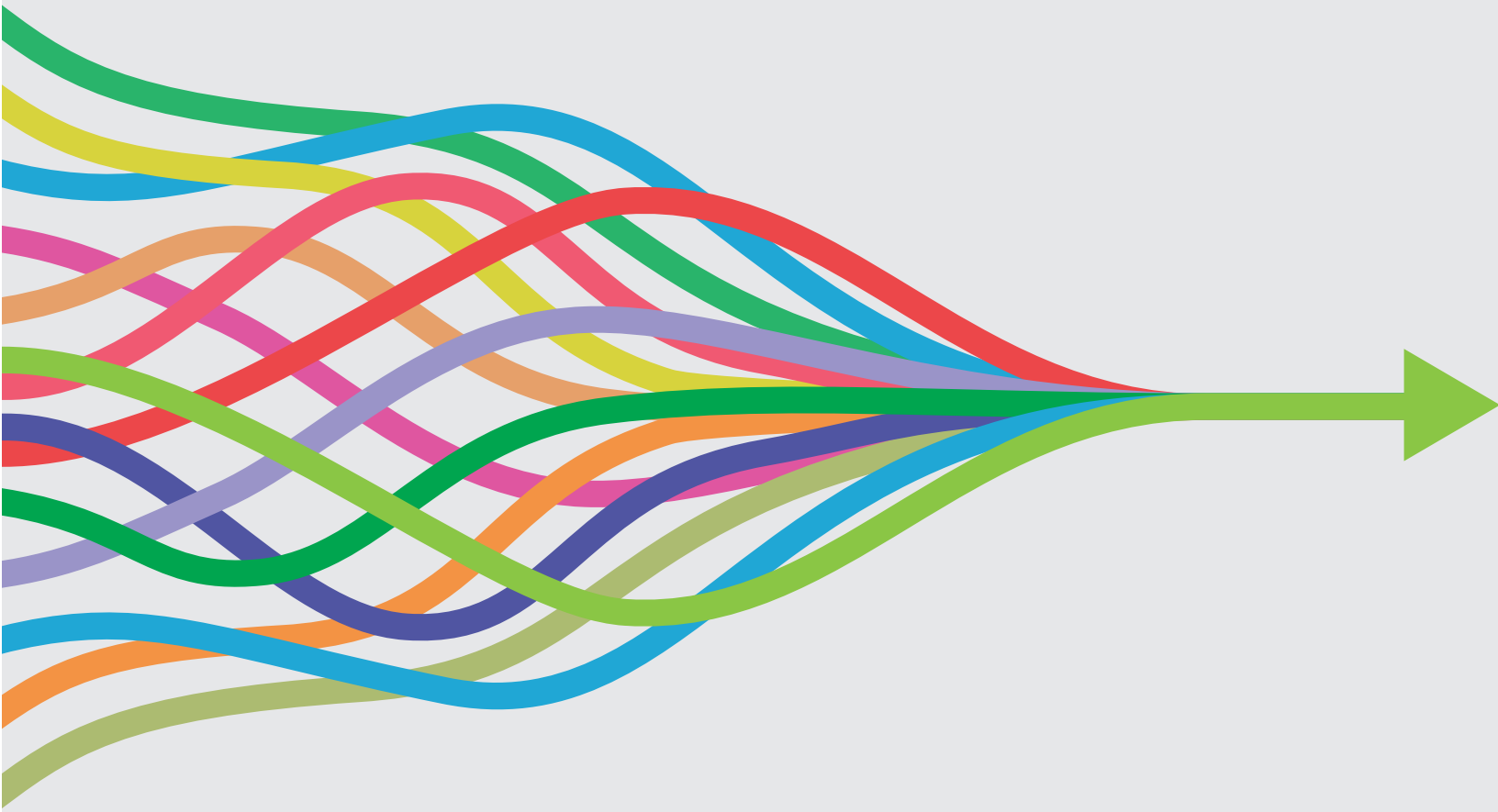
Independent Evaluation Office
GLOBAL ENVIRONMENT FACILITY

GEF Integrated Approach to Address Drivers of Environmental Degradation



Volume 2: Technical Documents

August 2022

Contents

A. Quality-at-Entry Analysis

Overview

The quality-at-entry (QAE) review covers all the 31 Integrated Approach Pilot (IAP) child projects and 43 out of the 63 child projects under the five Impact Programs (impact program) (Table 1). Only 9 out of 31 IAP child projects have MTRs so far, although most IAP child projects have at least two PIRs to date (67 total reviewed for the QAE).

Table 1. IAP and Impact Program Projects by Program

IAP/Impact Program	No. of Child Projects
RFS IAP	13
GGP IAP	5
Sustainable Cities IAP[1]	12
FOLUR impact program	28
Sustainable Cities impact program	8
Amazon Sustainable Landscapes impact program	8
Congo Basin Sustainable Landscapes	7
Dryland Sustainable Landscapes impact program	12

Source: GEF Portal website, https://gefportal.worldbank.org/App/; accessed 3 February 2021.

Nine impact program projects have been officially endorsed, and 34 have submitted the initial CEO endorsement requests but are still under review by the GEF Secretariat (Table 2). The remaining 20 impact program projects that have developed concept notes are in the process of preparing project documents, hence, they are excluded from this review. Given the ongoing

1 The Urban Networking to Complement and Extend the Reach of the Sustainable Cities IAP (GEF 9666) project is considered a stand-alone project under the Sustainable Cities IAP but is included with the child projects as part of this analysis.

nature of the impact program portfolio, data collected through the project document review at this stage are subject to changes, as the project documents are yet to be finalized. Some aspects may not be fully developed in the current version of the project documents; hence, the presented results summarize what has already been considered by the child projects instead of what may be included at the time of final CEO endorsement. For the 34 child projects that are under review by the GEF Secretariat and STAP, comments have been provided to Agencies to help improve project justification and enhance alignment with GEF requirements.

Table 2. Impact Program Child Project Status

	Number of child projects by impact program					
Child project status	**10198 (Amazon)**	**10201 (FOLUR)**	**10206 (Dryland)**	**10208 (Congo Basin)**	**10391 (Cities)**	**Total**
CEO Endorsement Cleared	1	3	2	1	2	9
CEO Endorsement Pending	6	13	10	5	-	34
Included in Council-Approved PFD	1	12	-	1	6	20
Total	8	28	12	7	8	63

Source: GEF Portal website, https://gefportal.worldbank.org/App/; accessed 3 February 2021.

Note: The cutoff date is March 19, 2020.

The following sections provide results from QAE review of child projects' documentation. Documents reviewed include IAP project implementation reviews (PIRs) and midterm reviews (MTR) and IAP and impact program child project CEO Endorsement documents and program framework documents (PFDs). In some cases, findings are unique to either the IAPs or impact programs. These cases are indicated by section headings.

QAE Findings

Relevance (impact program)

All national impact program child projects (n=43) mentioned alignment with national government's environmental priorities and with the Rio Conventions (UNFCC, UNCBD, UNCCD).

Program coherence (impact program)

Each of the impact program child projects (n=43) has described how it contributes to the overall program impact by referring to the program-level objectives, components, or expected outcomes. 15 of the 38 non-hub child projects (39%) already present specific indicators that directly contribute to the global impact program, which will feed into program level M&E reporting.

M&E (impact program)

All impact program child projects (n=43) have presented M&E plan in the project documents, including a timeline of planned M&E activities, a budget, roles and responsibilities. For the child

projects that are officially endorsed by the CEO, baseline data is provided in the results framework.

Evidence of progress toward results and challenges (IAP)

Forty-eight percent of child projects explicitly demonstrated progress toward achieving concrete environmental results in their PIRs or MTRs. Progress is most common among RFS IAP projects (77%, n=13) and less common among GGP (40%, n=5) and Sustainable Cities (23%, n=13) projects. Thirty-five percent of child projects (n=43) provide evidence of achieving concrete socioeconomic outcomes/effects.

The large majority of IAP child projects reviewed (68%, n=31) received a satisfactory or highly satisfactory Development Objective Rating in their 2020 PIR or MTR.2 Fewer, about half of child projects (48%), received a satisfactory or highly satisfactory Implementation Progress Rating (Table 3). Projects which received an Unsatisfactory rating included the National Platform for Sustainable Cities and Climate Change (GEF ID 9698) and Reversing Land Degradation trends and increasing Food Security in degraded ecosystems of Semi-arid areas of central Tanzania (GEF ID 9132). The Adaptive Management and Learning for the Commodities IAP (GEF ID 9179), Fostering Sustainability and Resilience for Food Security in Karamoja sub region (GEF ID 9137), and Support to Reduced Deforestation Commodity Production (GEF ID 9180) projects received a Marginally Unsatisfactory rating.

Table 3. IAP Child Project Ratings

IAP Child Project Rating (n=31)	HS	S	MS	MU	U	HU
Overall Development Objective Rating	3%	65%	26%	6%	0%	0%
Overall Implementation Progress[3]	3%	45%	35%	6%	6%	0%

IAP child projects have encountered a multitude of challenges and delays to date. Most IAP child projects identified challenges associated with the Covid-19 pandemic (77%, n=31). Nearly half (48%) of child projects reported operational challenges. Challenges related to stakeholder engagement (26%), implementation (23%), and government administrations and/or priorities (23%) were also frequently identified. The majority of delays were attributed to these

2 Reporting periods vary by PIR with most covering April 2019 through March 2020 or July 2019 through June 2020.

3 The Sustainable Cities IAP - Global Platform for Sustainable Cities (GEF ID 9162) does not report its Implementation Progress in its available PIR. Therefore, total those ratings do not equal 100 percent.

challenges. Delays were cited by 71% of child projects. Sixty-one percent of child projects indicated a major change to project delivery. In response to Covid-19, 61% of IAP child projects modified public project activities (e.g., workshops, trainings, and public consultations) and corresponding schedules. Other adaptations have included changes to internal governance (26%) and project objectives (10%), driven by implementation challenges and, in some cases, changes in country governments.

Sustainability and broader adoption

Of the 31 IAP child projects reviewed, institutional sustainability of interventions and/or outcomes was the most common outcome identified (71%) in project MTRs and PIRs, followed by the scaling up of interventions and/or outcomes (39%). Deep changes (e.g., market change, systemic change, behavioral change, addressing root cause of environmental problem) was the least commonly identified outcome (13%) (Table 4).

Table 4. Types of outcomes reported by IAP child projects

Outcomes	Institutional sustainability of interventions and/or outcomes	Financial sustainability of interventions and/or outcomes	Scaling up of interventions and/or outcomes	Deep changes	Mainstreaming of interventions and/or enabling conditions	Replication of interventions and/or enabling conditions
No. of IAP projects	22	7	12	4	10	9
Percentage of IAP projects (n=31)	71%	23%	39%	13%	32%	29%

Institutional sustainability of interventions and/or outcomes is reported by all impact program child projects (n=43). Financial sustainability of interventions in terms of developing sustainable financing mechanisms and enhancing public and private investments is reported by 26 child projects (60%). Scaling up of best practices and aiming for transformational impact are explicitly stated by 19 and 15 child projects, respectively (Table 5).

Table 5. Types of expected outcomes reported by impact program child projects

Expected outcomes	Institutional sustainability of interventions and/or outcomes	Financial sustainability of interventions and/or outcomes	Scaling up of interventions and/or outcomes	Deep changes	Mainstreaming of interventions and/or enabling conditions	Replication of interventions and/or enabling conditions
No. of impact program projects	43	26	19	15	12	7
Percentage of impact program projects (n=43)	100%	60%	44%	35%	28%	16%

Expected GEBs and social economic benefits (impact program)

Of the 11 core indicators, indicator 6 (greenhouse gas emission mitigated) and indicator 11 (number of direct beneficiaries disaggregated by gender) are consistently reported by all 38 national child projects. Indicator 4 (area of landscapes under improved practices) is reported by all but one national child project of the Sustainable Cities impact program (Rwanda Urban Development Project II, GEF ID 10530). Indicator 1 (terrestrial protected areas created or under improved management) and Indicator 3 (area of land restored) are reported by 15 and 31 national child projects, respectively. Only one child project (FOLUR: Inclusive Sustainable Rice Landscapes in Thailand, GEF ID 10268) set a target for the chemicals and waste related core indicator 9.[4]

The five hub projects report on core indicator targets in different ways. For the Sustainable Cities impact program, Amazon impact program, and Congo Basin impact program, separate core indicator targets are set for the hub/regional projects to avoid double counting, while the dryland hub project reports on program-level aggregated targets. The FOLUR hub project calculates the core indicator targets at two levels.

The Sustainable Cities hub project (global platform) focuses on measuring achievements of additional cities that will receive the global platform services to avoid double counting, which means the targets set by the hub project exclude cities directly covered by national child projects. The same method is applied to the Amazon hub project (regional technical assistance), which only reports on the non-directly attributable "influencing effect" of the hub project and excludes core indicator targets from national child projects. The regional child project under the Congo Basin impact program also reports on its separate GEB targets.

The core indicator targets for the dryland hub project are reported in an aggregated way. The targets are calculated as 5% on top of the total of the child projects in the case of core indicators 1 and 3, and 10% in the case of core indicators 4, 6, and 11.

The FOLUR hub project (global platform) plans to report on core indicator targets at two levels: total targets at program level (including 27 child projects and the global platform), and the global platform separate targets. The former measures the synergistic contribution of the global platform toward the overall objectives of the FOLUR impact program based on five GEF-7 core indicators. The latter measures the direct achievements of the global platform as a coordination, facilitation, advisory and assistance mechanism that works with and between child projects to facilitate changes in policies and practices that affect outcomes on the ground.

For the expected social and economic benefits, other than core indicator 11 (number of direct beneficiaries disaggregated by gender), the most frequently mentioned benefit is increasing income or access to capital or livelihood opportunities (84 percent, n=43). Opportunities for marginalized populations to participate in governance, food security, safety and security in

4 Indicator 9: Reduction, disposal or destruction, phase out, elimination, and avoidance of chemicals of global concern and their waste in the environment and in processes, materials, and products metric tons of toxic chemicals reduced.

terms of increased resilience to climate change and improved labor condition, land tenure, equitable access to resources are also reported in the project documents.

Additionality (impact program)

Six types of GEF additionality are defined

[1] for this review (Table 6). By reviewing the "incremental reasoning" stated in the impact program child project documents, the most frequently reported additionality that would be brought by the child projects are generating GEBs and strengthening institutions.

Table 6. Types of additionality reported as expected by impact program child projects

Types of additionality	GEBs	Institutions	Improvements in the living standard	Financing	Legal or regulatory reforms	Technologies
No. of impact program projects	35	31	18	12	10	9
Percentage of impact program projects (n=43)	81%	72%	42%	28%	23%	21%

Innovation

IAP child project documents commonly cited innovations, with 77% (n=31) indicating at least one type of innovation2 (Table 7). Technology innovations were most common among IAP child projects (52%), followed by finance (23%), business models (19%) and institutions (19%). Policy was the least commonly cited innovation (10%). Technology innovations frequently included data platforms and analysis systems (e.g., Trase Platform, GEF 9182: Generating Responsible Demand for Reduced-Deforestation Commodities). Some projects incorporated innovative low-emissions technologies and sustainable agriculture interventions. Financial and business model innovations included the development of new financial products and funding mechanisms, and public-private partnerships. Institutional innovation included new practices to support project governance and sustainability interventions in project countries.

The most frequently reported innovation at impact program child project design stage is institutional innovation (81%, n=43), which is provided through strengthening capacities for decision-making, supporting multistakeholder participation, promoting cross-sectoral planning processes (Table 7). Innovative technology is mentioned by 37% of the child projects, including

[1] Definition of GEF additionality is available from: https://www.gefieo.org/sites/default/files/documents/reports/additionality-framework.pdf

[2] Definitions of innovation is available from: https://www.gefieo.org/sites/default/files/documents/Innovation-approach-paper.pdf

use of technologies for production/resources management, access to markets, monitoring of natural resources, traceability, as well as access to communication. Financial innovation mainly refers to engagement of financial sector and private sector, as well as introduction of innovative incentive mechanisms.

Promoting sustainable value chains is considered as business model innovation by 11 child projects. Introducing and piloting an integrated approach is also considered as an innovation by 11 child projects. As stated by the FOLUR child project in Vietnam (Integrated Sustainable Landscape Management in the Mekong Delta of Vietnam, GEF ID 10245), the project aims to move beyond conventional "mainstreaming" approaches focused on individual crops or farming systems, it will address the intersections between markets and value chains, food systems, livelihood systems, farming systems and landscapes in an integrated and balanced manner.

Table 7. Types of innovation reported by child projects

Types of innovation	Institutions	Technology	Financial mechanism	Business models	Integrated approach	Policy change
No. of IAP projects	6	16	7	6	NA	3
Percentage of IAP projects (n=31)	19%	52%	23%	19%	NA	10%
No. of impact program projects	35	16	14	11	11	7
Percentage of impact program projects (n=43)	81%	37%	33%	26%	26%	16%

Factors influencing sustainability of outcomes (impact program)

The "sustainability and potential for scaling up" section of the impact program child project documents provides information on arrangements or plans for long term sustainability at design stage. The most frequently reported contributing factors are: stakeholder engagement in terms of participatory process in designing and implementing project activities as well as the focus on social inclusion (79 percent, n=43); appropriate project design, mainly the integrated nature of project (63 percent); financial mechanisms for continued post project outcome delivery embedded in project design (63 percent); stakeholder ownership at the various levels of implementation (63 percent) (Table 8).

Table 8. Most frequently mentioned contributing factors for sustainability of outcomes

Factor influencing sustainability of outcomes	Frequency	Percentage (n=43)
Stakeholder engagement in designing, implementing project activities	34	79%
Logical, context sensitive, technologically appropriate project design	27	63%
Financial mechanisms for continued post project outcome delivery embedded in project design	27	63%
Stakeholder ownership at the various levels of implementation	27	63%
Promoting the inclusion of environmental considerations in local development plans	21	49%
Opportunities for global and local knowledge exchange	21	49%
Working through long-term institutions or structures (vs creating new ones)	16	37%
Activities that generate direct social and economic benefits	16	37%
Objectives and activities targeting change at the system level	15	35%

Note: factors that were reported by at least 10 projects are listed.

Environmental governance

Most IAP child projects self-reported on activities to influence environmental governance in their respective countries in their PIRs or MTRs. Specifically, most IAP child projects (71%, n=31) reported on activities to influence country environmental legal frameworks. A majority (68%) of child projects also indicated that they influenced country environmental legal and regulatory frameworks. IAP child projects were also highly likely to include activities to support enhanced interactions and institutions (81%) and to increase the capacity of actors involved in environmental governance (90%). These activities included shared knowledge platforms and stakeholder working groups, online trainings, and targeted technical assistance and analyses to support environmental governance.

Most of the impact program child projects reviewed (65%, n=43) have planned activities to build capacities of key stakeholders involved in the environmental governance (Table 9), followed by activities that aim to influence the environmental legal framework (53%).

Table 9. Environmental governance related interventions reported by IAP and planned by impact program child projects

	IAP (n=31)		impact program (n=43)	
	No.	**%**	**No.**	**%**
Activities that target building the capacity of actors involved in environmental governance	28	90%	28	65%
Activities that plan to influence the country environmental legal framework to promote good environmental governance	22	71%	23	53%
Evidence that projects have influenced the country environmental legal and regulatory framework	21	68%	NA	NA
Activities that improve or enhance interactions or mechanisms between different Government ministries or agencies	25	81%	18	42%
Activities related to capacity building that targets enhancing environmental governance mechanisms, processes, institutions	25	81%	17	40%

Cross-cutting themes

Resilience in the context of climate risk was referenced by approximately half (52%, n=31) of IAP child projects reviewed. Climate change risks were most frequently identified in the context of natural resource impacts, including agricultural impacts, and climate risks and natural disasters. Resilience to nonclimate risks was only referenced by 26% of child projects. Food security, financial resilience, and resilience to non-specified disasters were the most frequently identified risks considered.3 When identified, climate risks were frequently identified together with nonclimate risks. Forty-two percent of IAP child projects report on resilience-focused indicators.

Resilience related to climate risk has been reported in the impact program child projects' risk management plans, which have specified mitigation actions at the design and implementation stages. Child projects are designed to strengthen resilience and build local capacity to adapt to climate change, in particular in developing early warning systems, implementing locally appropriate climate-smart practices, and improving disaster management.

All impact program child projects are responsive to the **COVID-19** impacts. Mitigation measures are identified in project documents at the CEO endorsement stage. Short-term responses include adopting remote communication via email, video conference and phone; adjusting project work plans and stakeholder engagement plans; evaluating the need for design modification from a decreased availability of cofinancing. The mitigation measures will support

3 Unless explicitly stated, non-specific disasters were not considered climate risks for the purpose of this QAE.

countries' COVID-19 responses and contribute to building the resilience of local livelihoods by providing necessary inputs, technical assistance, and diversification opportunities. In medium-term, projects will contribute to countries' recovery plans by improving management of natural resources.

Each of the impact program child projects has developed a **stakeholder engagement** plan through stakeholder consultation and participatory stakeholder mapping and analysis. Local communities, indigenous peoples, non-governmental organizations, private sectors, academic and research institutions were involved in the consultation process (Table 10). About a quarter of projects (12) explicitly report engagement with youth representatives and groups. Persons with disabilities are not explicitly mentioned in the child project documents. It is possible that they are engaged as part of the vulnerable groups during stakeholder consultation.

Table 10. Impact program child project preparation phase stakeholder engagement

Engagement Stakeholder Type	Stakeholder engagement (%) (n=43)
Academic & research institutions	65%
Indigenous peoples' groups	42%
Local vommunity groups	95%
NGOs	98%
Persons with disabilities	2%
Private sector (e.g., smallholders, SMEs*, large corporations)	91%
Youth	28%

*SME=small or medium enterprise

Eighty-one percent of IAP child projects documented a role for civil society organizations in implementation, with consultations during project implementation (42%) the most common form of engagement, followed by adopting or implementing GEB-producing interventions (35%) and multi stakeholder platforms (32 percent). impact program child projects plan to involve civil society organizations through consultation during implementation, adoption and implementation of GEB-producing interventions, serving as member of project steering committee, and cofinancer.

Private sector engagement was mentioned in 81 percent of IAP child project implementation reports (n=31) and is included in all impact program child projects. Most of the IAP child projects reviewed referenced engagement with private sector organizations in implementation (Table 11). Private sector stakeholders were mostly likely to be engaged in adopting/implementing GEB-producing intervention (45 percent). Private sector engagement as a cofinancer/investor (29 percent) and as part of a public-private partnership (26 percent) were the next most common forms of private sector engagement.

Table 11. IAP child project private sector engagement

Engagement Type	Private sector engagement (%) (n=31)
Public-private partnership	26%
Multistakeholder platform	19%
Member of project steering committee	0%
Cofinancer / investor	29%
Adopt/ implement GEB-producing interventions	45%
Receiving direct social benefits	19%
Consulted during project implementation	23%
Source of innovative technology and approaches	23%
Ensure institutional/technical capacity for GEB-producing interventions beyond project	16%
Fund interventions beyond project	3%
Scale up interventions	10%
No role	19%
Other	23%

Fifty-five percent of IAP child projects explicitly mention engagement with micro, small, and medium enterprises (MSMEs), with engagement most common with individual producers (e.g., farmer, fisher, miner) (48 percent). Engagement with cottage industries and other home-based production were the second most commonly cited MSMEs, with 13 percent of projects referencing their involvement. Other MSMEs, including income-generating community-based organizations (e.g., cooperatives, associations, village groups) and small or medium enterprises (SMEs) were referenced in 6 percent and 3 percent of child projects, respectively.

All 43 impact program child projects have provided specific information regarding plans for private sector engagement in the project documents. Private sector stakeholders will be engaged through cofinancing, adopting or implementing GEB-producing interventions, building public-private partnership, receiving direct social benefits, participating in multistakeholder platforms (Table 12). Thirty-one projects explicitly mention engagement with MSMEs, mainly the income-generating community-based organizations (65%), individual producers (39 percent), and SME (32 percent).

Table 12. Impact program child project planned private sector engagement

Engagement Type	Private sector engagement (%) (n=43)
Public-private partnership	47%
Multistakeholder platform	30%
Member of project steering committee	5%
Cofinancer,investor	60%
Adopt, implement GEB-producing interventions	53%
Receiving direct social benefits	40%
Consulted during project implementation	16%
Source of innovative technology and approaches	9%
Ensure institutional, technical capacity for GEB-producing interventions beyond project	21%
Fund interventions beyond project	2%
Scale up interventions	2%
No role	0%
Other	0%

Most of the IAP child projects (71%) included sex-disaggregated indicators. Gender-specific indicators, which go beyond disaggregation of beneficiaries by sex and allow for the intervention to demonstrate progress toward achieving gender equality or the empowerment of women, were adopted by less than one-third of projects (29 percent). Fifty-eight percent of child projects indicated gender-specific results. Results included the mainstreaming of women's participation in stakeholder platforms, workshops, and consultative bodies, and the adoption of gender-responsive tools and interventions (e.g., decision support tools, agriculture livelihood interventions), which directly benefited women. One project targeted small business development and microproject activities around value chains specifically to empower women (GEF ID 9141 Fostering Participatory Natural Resource Management Project).

Each of the impact program child projects has conducted gender analysis and developed gender action plan during project preparation. Gender-sensitive indicators and interventions are considered in the project logical frameworks. All child projects include gender disaggregated indicator in terms of number of female beneficiaries.

Knowledge Sharing (IAP)

Explicit linkages between program hub projects and other IAP child projects were identified in a minority of PIRs/MTRs. Twenty-five percent of IAPs, excluding hub projects (n=28), mention

linkages with to the hub project or global/regional coordination project. Linkages were most common among Food Security (n=12, 50 percent) projects and less common among Sustainable Cities (n=12, 8 percent). There were no linkages mentioned among Commodities (n=4, 0 percent) projects.

Twenty-one of the 38 non-hub impact program child projects (53 percent) include outputs/activities that explicitly contribute to effective knowledge management, monitoring, and linkages with the parent program hub project, which implies there is budget assigned for learning and coordination with the parent program or hub project at child project level. The review did not calculate this budget amount, since not all project documents provide financial breakdown at output level.

B. Geospatial Analysis

Introduction

This annex describes the geospatial analysis undertaken for the Formative evaluation of the GEF integrated approach to address the drivers of environmental degradation. The analysis aims to provide evaluative evidence to assess the relevance of the integrated approach, specifically focusing on how well GEF's additionality and comparative advantage to address drivers of environmental degradation is reflected in the locations of its child projects in the food systems programs. The three food systems programs, the RFS and GGP Integrated Approach Pilots (IAPs) and the Food Systems, Land Use and Restoration Impact Program (FOLUR impact program) address the overlapping environmental, social and economic issues related to agriculture (especially smallholders) and food security, land degradation, biodiversity and climate change. Ideally, the child projects of these food systems programs would be located in areas where the overlap of these issues is greatest and the need for an integrated approach is highest so that GEF could have the highest possible relevance and impact with the resources available.

One way of evaluating if GEF has chosen highly relevant locations is using geospatial analysis, in which several spatially explicit layers of indicators representing the location and severity of environmental and socioeconomic issues are "stacked" upon one another to see where they overlap. A spatial index can be created, combining information from all the layers into an overarching score showing areas where the greatest number of issues are present in the highest severity. This analysis's objective is to use geospatial datasets and analysis to understand if GEF child projects in the three food systems integrated programs are located in such areas where pertinent environmental drivers of degradation along with socioeconomic indicators overlap, giving GEF the highest possible chance to utilize its comparative advantage and achieve maximum impact.

Methodology

To assess the relevance of the child project locations chosen by the three food system programs, such spatial indices were created for each program, referred to as spatial relevance indices. The input data layers showed locations and severity of indicators representing the major environmental issues that the programs hope to tackle, along with the locations of the key commodities included in the programs (Table 13). If an environmental issue or commodity was mentioned in the expected outcomes, program objective, program components or planned program outcomes in the program's framework document (PFD), it was included in the spatial relevance indices.

The analysis was done at two scales: a global analysis which created country-level indices and a subnational analysis which created subnational indices for select countries. For the global analysis, all 164 countries eligible for GEF funding were initially included. Certain data layers did not include some countries, making those countries impossible to include for some or all of the

spatial relevance indices created. This issue was especially common for the small island countries in the Pacific Ocean.[1]

The subnational analysis was completed for Brazil and Kenya. These countries were chosen to align with the country case studies for the larger integrated approach evaluation and because they both included two projects in the food systems programs: Projects GEF ID 9617 (GGP IAP) and GEF ID 10468 (FOLUR impact program) in Brazil and GEF ID 9139 (RFS IAP) and GEF ID 10598 (FOLUR impact program) in Kenya. Subnational spatial relevance indices were only calculated for the programs that corresponded to a project in each of the two countries. Furthermore, the GGP IAP Brazil indices and the FOLUR impact program indices for both countries were modified to exclude data layers showing the locations of commodities that were targeted by the broader programs but not by the specific child projects in those countries. The subnational analysis was done using administrative boundaries one level below the country level—states in Brazil and counties in Kenya. Some of the data layers used at the global level did not have sufficient spatial resolution for a subnational analysis. In those cases, alternate data layers were used for the analysis, as specified in Table 13. Additionally, the proxy used for smallholder agriculture locations, field size, was altered slightly for the Kenya Food Security indices from that used for the global analysis. For Kenya, only "very small" fields (<0.64 ha) were considered smallholder agriculture due to evidence that even the average Kenyan farm size is less than 0.5 ha.[2] For the global analysis, both very small and small farms (<2.56 ha) were considered smallholder areas.

[1] Countries excluded from all spatial indices for lack of data in certain datasets: Cook Islands, Kiribati, Maldives, Marshall Islands, Niue, Nauru, Palau, Samoa, Tokelau, Tonga and Tuvalu. Countries included only in the Food Security IAP index: Comoros and Micronesia. Countries included only in GGP IAP and FOLUR impact program: Kosovo, North Korea and Saint Vincent.

[2] D'Alessandro SP, Caballero J, Lichte J and Simpkin S (2015) Kenya agricultural sector risk assessment. Agriculture Global Practice Technical Assistance Paper, World Bank Group Report 97887.

Table 13. Data layers used to create the spatial relevance indices for the three food systems programs

Issue represented by the layer	Indicator shown in the layer	Description of data processing	Layer source	Inclusion in spatial relevance indices
Biodiversity	Area of biodiversity hotspots	Area considered to be a biodiversity hotspot was summed for each country.	Hoffman et al. (2016)[3]	GGP
Climate change vulnerability	**Global analysis**: Climate change vulnerability index	Climate change country index was used.	Notre Dame Global Adaptation Index[4]	RFS
	Kenya analysis: Projected change in rainfall seasonal variability for 2030	Projected change in seasonal variability at the watershed scale was area-weight averaged for each subnational unit. Larger change in seasonal variability correlates to larger swings in rainfall amounts (floods and droughts) at times of the year differing from historical patterns.	AQUEDUCT[5]	
Commodity location	Area of physical crop location and number of cattle	Area of physical location for each target crop and number of cattle for each country was summed.	MapSPAM[6] and Food and	GGP and FOLUR

[3] Hoffman M, Koenig K, Bunting G, Costanza J and Williams KJ (2016) Biodiversity Hotspots (version 2016.1). http://doi.org/10.5281/zenodo.3261807.

[4] Chen C, Noble I, Hellmann J, Coffee J, Murillo M and Chawla N (2015) University of Notre Dame Global Adaptation Index, Country Index Technical Report.

[5] Luck M, Landis M, Gassert F (2015) Aqueduct water stress projections: decadal projections of water supply and demand using CMimpact program5 GCMs. Technical Note, Washington, D.C.: World Resources Institute.

[6] Yu Q, You L, Wood-Sichra U, Ru Y, Joglekar AKB, Fritz S, Xiong W, Lu M, Wu W and Yang P (2020) A cultivated planet in 2010 –Part 2: the global gridded agricultural-production maps. *Earth Systems Science Data*: 12, 3545-3572.

Issue represented by the layer	Indicator shown in the layer	Description of data processing	Layer source	Inclusion in spatial relevance indices
			Agriculture Organization[7]	
Conservation of existing forests	Amount of forest biomass	Aboveground carbon maps were clipped to forested areas and then summed by country.	European Space Agency Climate Change Initiative[8,9]	GGP
Food security	**Global analysis**: Food or water security index	Global Food Security Index scores at the country level were used. If not available, baseline overall water stress for the agricultural sector was area-weight averaged for each country.	Global Food Security Index[10] and AQUEDUCT[11]	RFS
	Kenya analysis: Sum of food security integrated phase classification (impact programC) ratings 2009-2020	impact programC ratings from each quarter-year were summed for each subnational unit. Higher ratings indicate more food insecurity for a given quarter-year.	Famine Early Warning Systems Network[12]	

[7] Robinson TP, William Wint GR, Conchedda G, van Boeckel TP, Ercoli V, Palamara E, Cinardi G, D'Aietti L, Hay SI and Gilbert M (2014) Mapping the global distribution of livestock. *PLOS One*: 9,5.

[8] Santoro M and Cartus O (2019) ESA Biomass Climate Change Initiative: Global datasets of forest above-ground biomass for the year 2017, v1. Centre for Environmental Data Analysis.

[9] ESA Land Cover CCI project team, Defourny P (2016) ESA Land Cover Climate Change Initiative: Global Land Cover Maps, Version 2.0.7. Centre for Environmental Data Analysis.

[10] Bapat P, Bharadwaj S, Grenville S and Smith R (2019) Global Food Security Index 2019. Economist Intelligence Unit and Cortva Agriscience.

[11] Hofste RW, Kuzma S, Walker S, Sutanudjaja EH, Bierkens MFP, Kuijper JM, Faneca Sanchez M, van Beek R, Wada Y, Galvis Rodriguez S and Reig P (2019) AQUEDUCT 3.0: updated decision-relevant global water risk indicators. World Resources Institute, Technical Note.

[12] Famine Early Warning System Network (2021) Food security classification data: current situation (non-projection) shapefiles. https://fews.net/fews-data/333. Accessed 5 Mar 2021.

Issue represented by the layer	Indicator shown in the layer	Description of data processing	Layer source	Inclusion in spatial relevance indices
Natural landscape degradation	Area of deforestation, by driver	Area of deforestation (2001-2019) by select driver was summed for each country. For GGP IAP, only commodity-driven deforestation was used. For FOLUR, commodity-driven and shifting agriculture were included.	Global Forest Watch, Curtis et al. (2018)[13]	GGP, FOLUR
Natural landscape restoration	Area of potential reforestation	Non-forest areas suitable for reforestation were summed by country.	Griscom et al. (2017)[14]	FOLUR
Smallholder agriculture	**Global analysis**: Area of small and very small field size (<2.56 ha) **Kenya analysis**: Area of very small field size (<0.64 ha)	Area of very small and small (for global analysis only) farms were summed by country.	Lesiv et al. (2019)[15]	GGP and RFS

In most cases, the data layers used had spatial resolutions much finer than the country or even the subnational administrative boundary scale used for the subnational analysis. This necessitated averaging or summing the value of the data layer to calculate a total or average value per area unit (one value per country at the global scale and one value per subnational administrative unit at the subnational scale). Once a single value for each data layer was

[13] Curtis PG, Slay CM, Harris NL, Tyukavina A and Hansen MC (2018) Classifying drivers of global forest loss. *Science*: 361 (6407), 1108-1111.

[14] Grisom BW, Adams J, Ellis PW, Houghton RA, Lomax G, Miteva DA, Schlesinger WH, Shoch D, Siikamaki JV, Smith P, Woodbury P, Zganjar C, Blackman A, Campari J, Conant RT, Delgado C, Elias P, Gopalakrisna T, Hamsik MR, Herrero M, Kiesekcer J, Landis E, Laestadius L, Leavitt SM, Minnemeyer S, Polasky S, Potapov P, Putz FE, Sanderman J, Silvius M, Wollenberg E and Fargione J (2017) Natural climate solutions. Proceedings of the National Academy of Sciences: 44, 11645-11650.

[15] Lesiv M, Laso Bayas JC, See L, Duerauer M, Dahlia D, Durando N, Hazarika R, Kumar Sahriah P, Vakolyuk M, Blyshchyk V, Bilous A, Perez-Hoyos A, Gengler S, Prestele R, Bilous S, Hassan Akhtar I, Singha K, Boro Choudhury S, Chetri T, Malek Z, Bungnamei K, Saikia A, Sahariah D, Narzary W, Danylo O, Sturn T, Karner M, McCallum I, Schepaschenko D, Moltchanova E, Fraisl D, Moorthy I, Fritz S (2019) Estimating the global distribution of field size using crowdsourcing. *Global Change Biology*: 25, 174-186.

obtained for each area unit, the values were normalized to the minimum and the maximum values to standardize the values across indicators and avoid artificial over-weighting of one indicator over another. In this minimum-maximum normalization, the lowest area unit value for each indicator was given a score of zero while the highest given a score of one.

Once the minimum-maximum normalization was complete, the single values for each data layer included in each program's spatial relevance index were averaged to create a total spatial relevance index score per area unit. This score is referred to as the "total" spatial relevance index score and tends to favor larger area units since such units are more easily able to accrue large amounts of certain indicators given their size. To counter this effect, a second spatial relevance index was created by normalizing by area unit size—dividing the area unit values for each indicator by the size of the area unit. This "normalized" spatial relevance index tends to favor small area units where a large percentage of their area is taken up by certain indicators. The geospatial data processing steps described here are shown graphically in Figure 1.

Once the total and normalized spatial relevance indices were calculated globally and for the two subnational analysis countries, the resulting scores were broken into five "spatial relevance" classes for display purposes: very high, high, moderate, low and very low. The class breaks were determined within Esri's ArcGIS software using the Jenks Natural Breaks algorithm, which seeks to classify data into naturally clustered groupings.[16]

[16] For more information on the use of Jenks Natural Breaks in ArcGIS, see Esri's website.

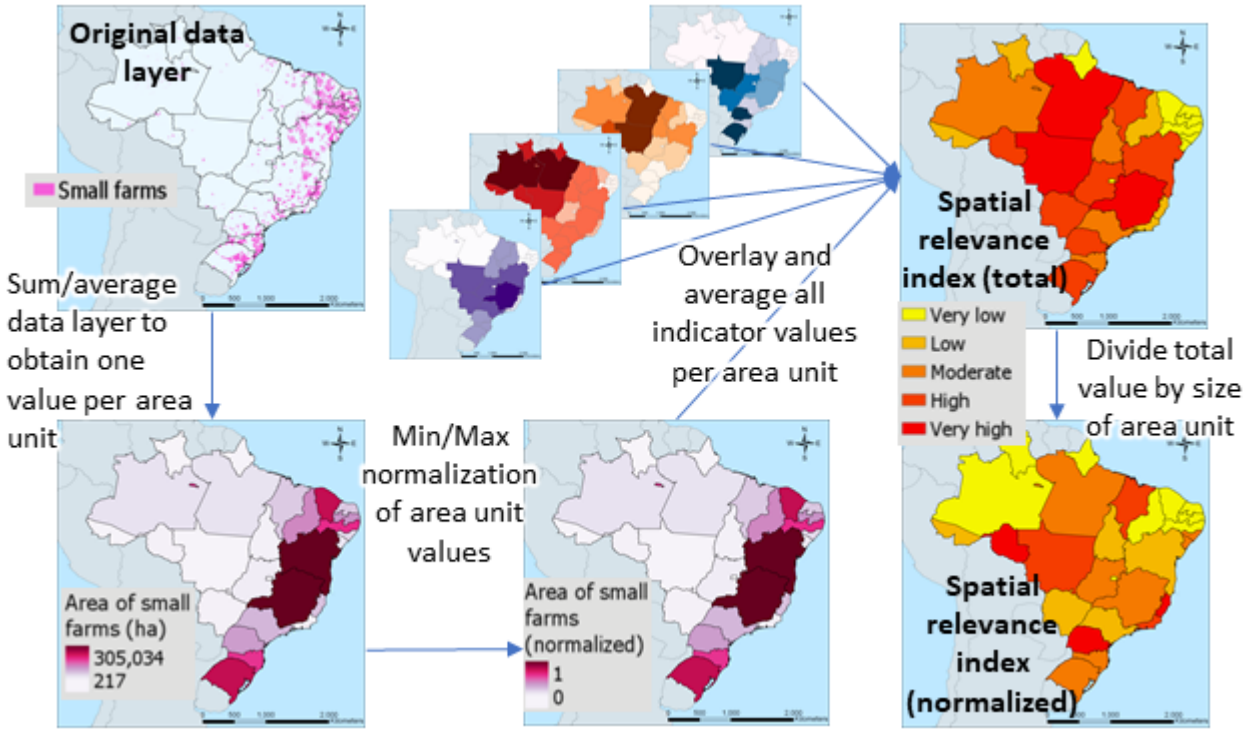


Figure 1. Geospatial data processing steps to create the spatial relevance indices. The example of the GGP IAP spatial relevance indices for the Brazil subnational analysis is shown here.

Methodological differences with ex-ante FOLUR spatial prioritization analysis

The GEF Secretariat performed a spatial prioritization exercise in 2018 to identify the most relevant countries for the drivers targeted by the FOLUR program. This exercise was similar to the global spatial relevance analysis described here in that it combined several country-level data layers into a spatial index. There are some key differences between the two analyses. The ex-ante prioritization analysis conducted by the Secretariat included slightly different indicators (Table 14). The ex-ante analysis's index was created using commodity production location information and weighted by a country's emissions reduction commitments in the agriculture, forestry and other land use sector. The other indicators were used only qualitatively for comparison but were not included in the calculated prioritization index. In contrast, the FOLUR spatial relevance index described in this report includes area of deforestation and area of potential reforestation and does not take into account emissions reductions or restoration commitments.

Given the importance of reducing deforestation and encouraging forest landscape restoration within the FOLUR impact program program design, it was deemed important to embed these two indicators in the quantitative spatial relevance index of the program rather than only including them as qualitative comparators as done in the ex-ante prioritization analysis. In contrast, emissions reductions and restoration commitments, while serving as useful indicators of level of country commitment to reducing emissions and restoring forests, don't necessarily

correlate with amount of actual emissions within a country or the amount of land suitable for forest restoration. The goal of the spatial relevance analysis described in this report is to understand where the drivers of environmental degradation and opportunities for restoration the food systems related IAPor impact program programs seek to address are most abundant and in need of focus without consideration to political will. For this reason, it was not deemed appropriate to include these commitments in the FOLUR spatial relevance index.

Table 14. Main differences in data sources between the GEF Secretariat ex-ante geospatial prioritization analysis and the FOLUR spatial relevance index.

Environmental issue	Data source used		
	Ex-ante FOLUR prioritization analysis	FOLUR spatial relevance analysis	Implications of differences
Commodity location	Area of production (FAO)	MapSPAM physical area and FAO number of cattle	Finer resolution layers used in spatial relevance analysis allow for more granular, subnational analysis.
Natural landscape degradation	Area of deforestation from FAO for 2015*	Area of deforestation by driver from Global Forest Watch	Same as above and Global Forest Watch includes a longer data series (2001-2019) and is an independent data source based on remote sensing rather than country-reported numbers.
Natural landscape restoration	Bonn Challenge and Tropical Forest Alliance commitments*	Griscom et al. (2017) area of potential reforestation	Commitments show political will but not potential suitability from an ecological and bioclimatic perspective.
Emissions reductions commitments	Intended National Determined Commitments to the United Nations Framework Convention on Climate Change	None	Same as above.
Biodiversity hotspots	Conservation International, 2005*	None	Biodiversity did not meet the criteria for inclusion in the FOLUR spatial relevance index because it was not mentioned in the key parts of the PFD.

*According to GEF Secretariat documents, these layers were used only for "comparison", not included in the index created for the GEF Secretariat ex-ante analysis. It isn't clear how these comparisons were specifically used in the selection of FOLUR child project countries.

Limitations

This spatial relevance analysis attempts to understand whether GEF food systems integrated programs investments are being targeted in areas of the world having the highest concentration of key environmental issues present. The analysis does not aim, however, to be inclusive of all factors that go into the decision to place a child project in a specific country. Other political, safety, funding and practical issues are very important in such decisions and cannot easily be captured by spatial analysis. For example, country governments must show interest in the programs and be willing and have the capacity to design projects together with GEF Agencies to be eligible to participate in the programs. Such country capacity is not captured in the spatial relevance index. Other factors not related to environmental issues, such as involvement in international conventions and GEF focal area funding, are also not considered. In addition, programs operate with limited resources, which limits the number of spatially relevant countries in which the programs can work. In this sense, the spatial relevance index serves as a scientific, data-driven and quantitative first-cut look at where GEF could have the most environmental impact. The results then must be considered alongside other political, financial, logistical and social factors.

Results

Global analysis

Finding 1 – The GGP IAP and FOLUR impact program have child projects or child project activities located in the countries that have the highest spatial relevance according to their programs' spatial relevance indices. The two programs' indices produced similar results, especially the total spatial relevance indices (Figure 7 and Table 15). Since both programs included deforestation and commodity location, many of the large, forested countries topped their indices. The programs are active in several of these top countries--Brazil and Indonesia, both countries with child projects or project activities in both programs, had the two highest total spatial relevance scores for the GGP IAP and the 1st and 3rd highest total spatial relevance for the FOLUR impact program. Brazil's high relevance is a result of its large forest and agricultural areas—it had the highest amount of forest biomass, deforestation, biodiversity hotspot area and area of soy and coffee farms and the highest number of heads of cattle of any of the countries included in the analysis. Indonesia had the second-highest amount of deforestation (although only half as much as Brazil) and the largest area of oil palm farms in the included countries. China, which had the 2nd highest total spatial relevance for the FOLUR impact program, has a child project in the FOLUR impact program as well. China had the largest area suitable for forest restoration, of small or very small fields (a proxy for smallholder agriculture) and of maize farms. India, Mexico and Colombia, other FOLUR project countries, all were in the top 10 for total spatial relevance for that program, meaning six of the top 10 countries with the highest total spatial relevance have child projects in the program. Four of the top 10 for the normalized FOLUR spatial relevance also have projects—Malaysia (1st), Nicaragua

(3rd), Paraguay (4th) and Guatemala (5th). Paraguay and Liberia, both with projects in the GGP IAP, were outside the top 10 for both of that program's indices, but nonetheless were classified as having high spatial relevance with the normalized index given their high rates of deforestation and soy farming (Paraguay) and biodiversity hotspot area (Liberia).

Finding 2 - the FOLUR impact program has child projects in many countries with low spatial relevance. Kenya, Papua New Guinea and Uzbekistan all had very low relevance for the total and normalized scores while Burundi, Kazakhstan, Peru and Uganda had low relevance for either the total or normalized indices and very low for the other. Uzbekistan is a generally arid country with no deforestation and very little area suitable for reforestation, although it does have a somewhat large area of wheat farming. Kenya also had relatively low deforestation and area suitable for reforestation, while Papua New Guinea's very low scores were due to its lack of area of the major FOLUR commodities.

Finding 3—There is high agreeability between the FOLUR impact program total spatial relevance index and the ex-ante analysis index with some exceptions. Six of the top 10 FOLUR spatial relevance index countries were also in the top 10 of the ex-ante index, all of which have child projects in the FOLUR program (Table 16). The normalized spatial relevance index showed less agreement, as none of the top 10 countries overlapped. Bangladesh and Ecuador, ranked 7th and 10th in the ex-ante analysis, are not FOLUR countries and were not in the top 10 for either spatial relevance index.

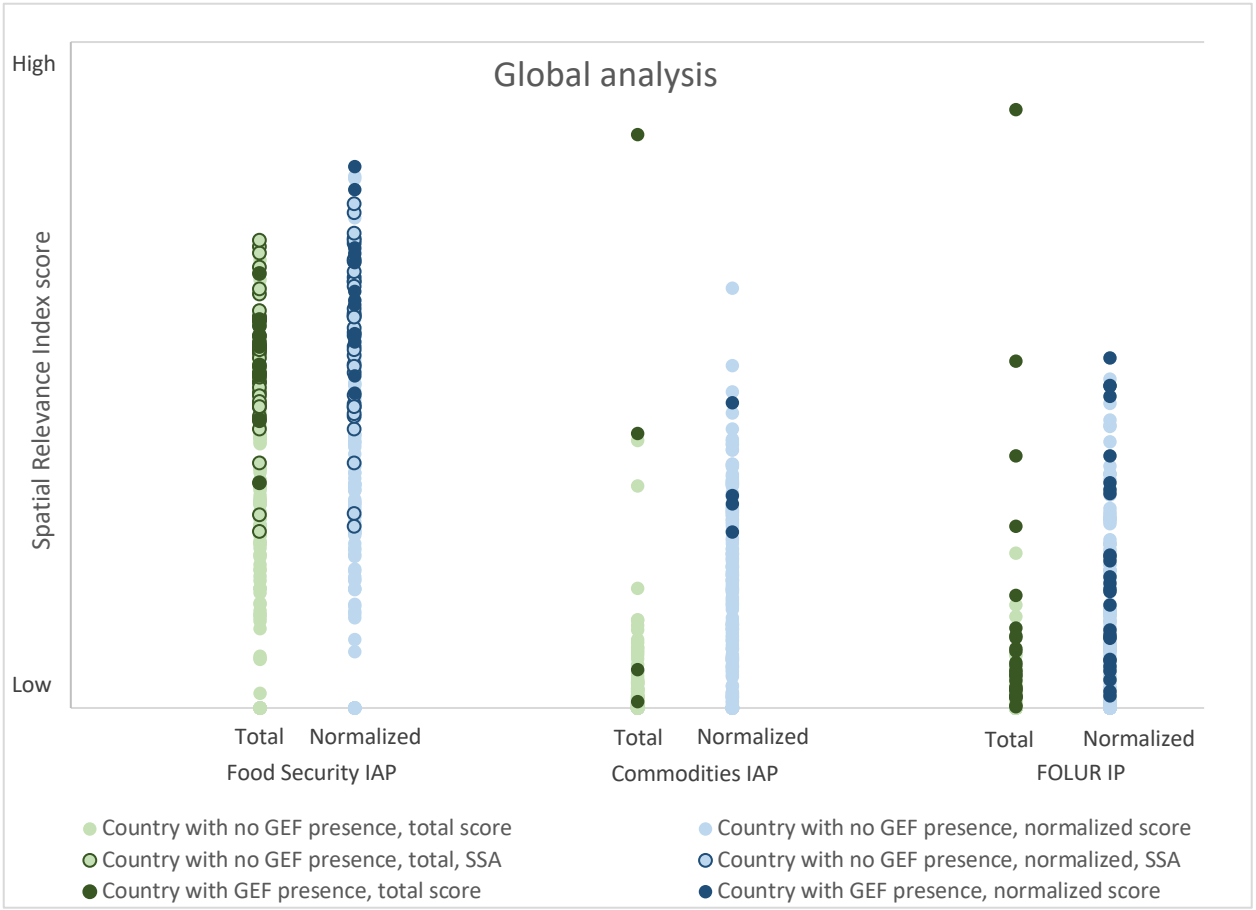


Figure 2. Relative spatial relevance index scores for all included countries for all three food systems programs. Note: SSA = sub-Saharan Africa. SSA countries are differentiated from others only for the RFS IAP indices.

Table 15. Countries with the highest GGP IAP spatial relevance index scores.

GGP IAP							
Total Spatial Relevance index				Normalized Spatial Relevance index			
Rank	Score	Country	Program presence	Rank	Score	Country	Program presence
1	0.78	Brazil	Yes	1	0.57	Malaysia	No
2	0.37	Indonesia	Yes	2	0.46	Cambodia	No
3	0.36	China	No	3	0.43	El Salvador	No
4	0.30	India	No	4	0.41	Indonesia	Yes
5	0.16	Russia	No	5	0.40	Vietnam	No
6	0.12	Malaysia	No	6	0.38	Thailand	No
7	0.12	Mexico	No	7	0.36	Laos	No
8	0.11	Argentina	No	8	0.36	Guatemala	No
9	0.11	Ethiopia	No	9	0.36	Jamaica	No
10	0.09	Democratic Republic of the Congo	No	10	0.36	Honduras	No
19	0.05	Paraguay	Yes	27	0.29		
65	0.01	Liberia	Yes	29	0.28		

Table 16. Countries with the highest FOLUR impact program spatial relevance index scores.

FOLUR impact program								
Total Spatial Relevance index				Normalized Spatial Relevance index				Ex-ante prioritization index
Rank	Score	Country	Program presence	Rank	Score	Country	Program presence	Country
1	0.81	Brazil	Yes	1	0.47	Malaysia	Yes	India
2	0.47	China	Yes	2	0.45	Dominican Republic	No	Indonesia
3	0.34	Indonesia	Yes	3	0.44	Nicaragua	Yes	Brazil (T3)
4	0.25	India	Yes	4	0.44	Paraguay	Yes	China (T3)
5	0.21	Russia	No	5	0.42	Guatemala	Yes	Mexico
6	0.15	Mexico	Yes	6	0.41	Haiti	No	Nigeria
7	0.14	Democratic Republic of the Congo	No	7	0.39	Honduras	No	Bangladesh
8	0.12	Argentina	No	8	0.38	El Salvador	No	Colombia (T8)
9	0.11	Colombia	Yes	9	0.38	Cuba	No	Thailand (T8)
10	0.10	Côte d'Ivoire	Yes	10	0.36	Sierra Leone	No	Ecuador
12	0.08	Nigeria	Yes	73	0.10			
16	0.06	Thailand	Yes	37	0.21			
17	0.06	Vietnam	Yes	17	0.31			
22	0.05	Ethiopia	Yes	89	0.06			
20	0.05	Ghana	Yes	36	0.21			
21	0.05	Tanzania	Yes	71	0.10			
26	0.04	Peru	Yes	100	0.05			
23	0.04	Ukraine	Yes	51	0.16			

FOLUR impact program								
Total Spatial Relevance index				Normalized Spatial Relevance index				Ex-ante prioritization index
Rank	Score	Country	Program presence	Rank	Score	Country	Program presence	Country
32	0.03	Kazakhstan	Yes	115	0.02			
38	0.02	Guinea	Yes	49	0.17			
48	0.02	Papua New Guinea	Yes	95	0.06			
46	0.02	Uganda	Yes	75	0.09			
49	0.01	Kenya	Yes	106	0.04			
53	0.01	Liberia	Yes	20	0.29			
103	0.00	Burundi	Yes	87	0.07			
83	0.00	Uzbekistan	Yes	121	0.02			

Finding 4 – Almost all of countries with child projects in the RFS IAP were found to have very high or high spatial relevance. Of the 12 countries with child projects, only two (Ghana and Senegal) didn't have very high or high spatial relevance for both the total and normalized indices (Table 17, Table 18). Four of the countries with child projects (Burundi, Malawi, Nigeria and Uganda) had very high relevance for both indices. Burundi had the second lowest food security index score of countries included in the analysis while all four had high climate change vulnerability.

Finding 5 – Several countries with the highest spatial relevance do not have child projects in the program. Of countries with child projects, only Burundi and Malawi were in the top 10 countries with the highest spatial relevance, with Burundi as the top country in the normalized index and seventh in the total index and Malawi 4th in the normalized index. The countries with the highest total spatial relevance were Chad (highest climate change vulnerability of any country), Democratic Republic of Congo (DRC—very low food security and very high climate change vulnerability), and India (large area of smallholder farms and relatively high climate change vulnerability), none of which have child projects in the program. In the normalized index, after Burundi were Haiti and Bangladesh with the highest spatial relevance. In total, 19 countries classed as very high for total spatial relevance don't have child projects in the program (24 for normalized index), with 13 of those (for both indices) falling in sub-Saharan Africa where the program has all of its child projects.

Table 17. Countries with the highest RFS IAP spatial relevance index scores.

RFS IAP							
Total Spatial Relevance index				Normalized Spatial Relevance index			
Rank	Score	Country	Program presence	Rank	Score	Country	Program presence
1	0.63	Chad	No	1	0.73	Burundi	Yes
2	0.62	Democratic Republic of the Congo	No	2	0.72	Haiti	No
3	0.62	India	No	3	0.72	Bangladesh	No
4	0.61	Eritrea	No	4	0.70	Malawi	Yes
5	0.61	Afghanistan	No	5	0.68	Zimbabwe	No
6	0.60	Somalia	No	6	0.67	Togo	No
7	0.59	Burundi	Yes	7	0.66	Lebanon	No
8	0.58	Yemen	No	8	0.64	Chad	No
9	0.57	Venezuela	No	9	0.64	Eritrea	No
10	0.57	Zimbabwe	No	10	0.63	Rwanda	No
21	0.52	Nigeria	Yes	13	0.62		
23	0.50	Uganda	Yes	16	0.61		
26	0.49	Niger	Yes	43	0.51		
27	0.49	Ethiopia	Yes	33	0.55		
30	0.49	Tanzania	Yes	32	0.55		
37	0.46	Burkina Faso	Yes	30	0.56		
41	0.45	Swaziland	Yes	20	0.60		
44	0.45	Kenya	Yes	50	0.50		
67	0.39	Senegal	Yes	66	0.45		
88	0.30	Ghana	Yes	72	0.43		

Table 18. Countries with the highest RFS IAP spatial relevance scores, showing sub-Saharan African countries only.

RFS IAP – Sub-Saharan Africa only							
Total Spatial Relevance index				Normalized Spatial Relevance index			
Rank	Score	Country	Program presence	Rank	Score	Country	Program presence
1	0.63	Chad	No	1	0.73	Burundi	Yes
2	0.62	Democratic Republic of the Congo	No	2	0.70	Malawi	Yes
3	0.61	Eritrea	No	3	0.68	Zimbabwe	No
4	0.60	Somalia	No	4	0.67	Togo	No
5	0.59	Burundi	Yes	5	0.64	Chad	No
6	0.57	Zimbabwe	No	6	0.64	Eritrea	No
7	0.56	Madagascar	No	7	0.63	Rwanda	No
8	0.54	South Sudan	No	8	0.63	Democratic Republic of the Congo	No
9	0.53	Mauritania	No	9	0.62	Nigeria	Yes
10	0.53	Sudan	No	10	0.61	Uganda	Yes
18	0.49	Niger	Yes	29	0.51		
19	0.49	Ethiopia	Yes	21	0.55		
21	0.49	Tanzania	Yes	20	0.55		
27	0.46	Burkina Faso	Yes	19	0.56		
29	0.45	Swaziland	Yes	13	0.60		
31	0.45	Kenya	Yes	31	0.50		
44	0.39	Senegal	Yes	38	0.45		
47	0.30	Ghana	Yes	39	0.43		

Kenya subnational analysis

Finding 1—In Kenya, areas with lowest food insecurity and highest climate change vulnerability did not overlap with areas with the most smallholder agriculture. The counties with the highest spatial relevance for the Kenya RFS IAP index were in the arid north, where food security was at its lowest and climate change vulnerability its highest. In contrast, areas of smallholder agriculture were mostly located in the southern half of the country (Figure 3). This shows that spatially, there is little area in Kenya in which all of the important environmental and socioeconomic indicators of the RFS IAP exist together. A project hoping to work with the Kenyan populations with the lowest food security probably wouldn't be working with smallholder farmers—instead, the project might want to focus on working with herders in arid regions where agriculture is largely untenable. However, the program by design aims to work with smallholder farmers and thus logically did not work in northern Kenya where there are very few such farmers.

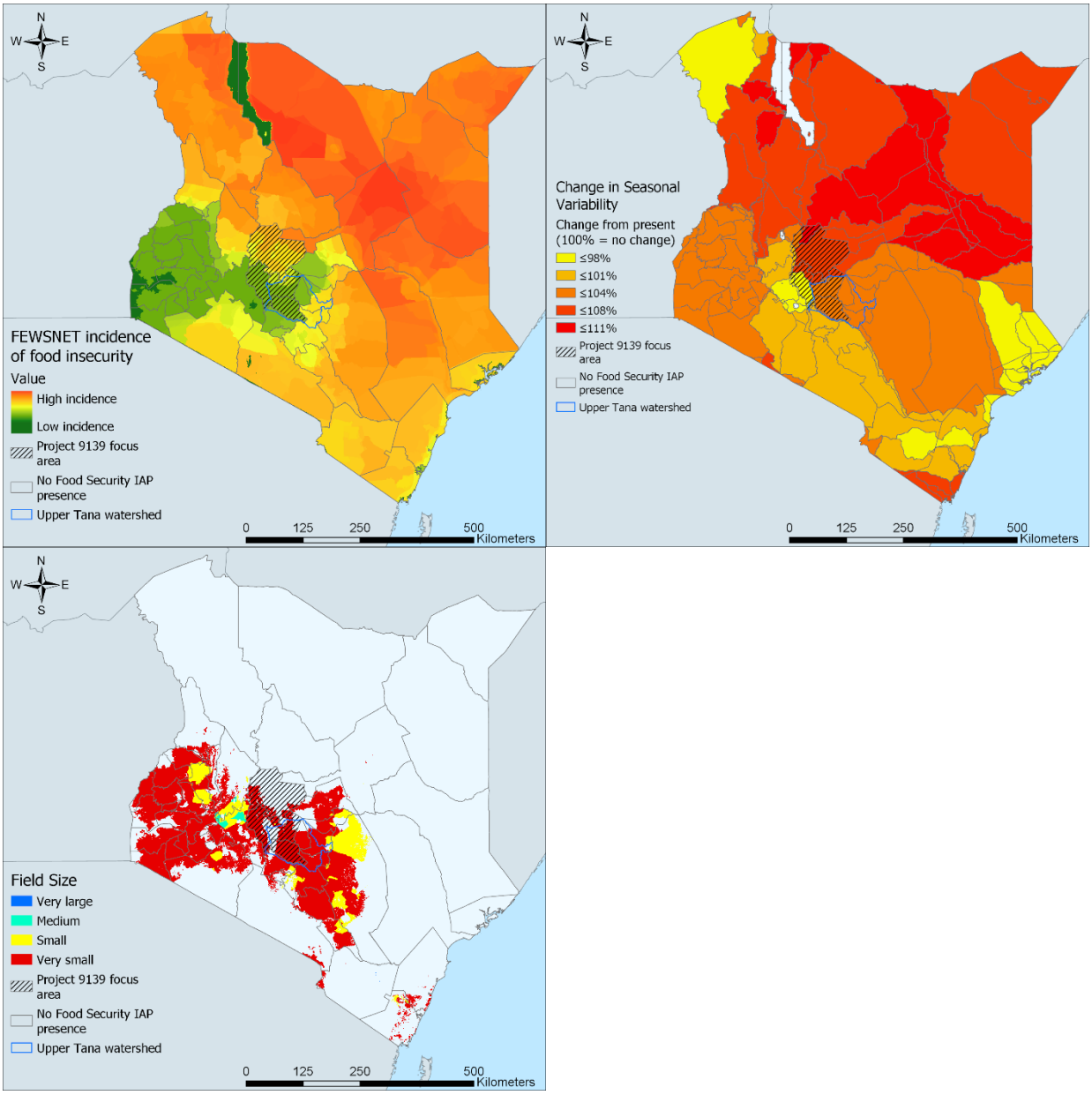


Figure 3. Input layers representing food security (upper left), climate change vulnerability (upper right) and smallholder agriculture (lower left—very small field size only) into the Kenya RFS IAP spatial relevance index.

Finding 2—the Kenya RFS IAP project areas had mixed spatial relevance, capturing neither the counties with the highest nor the lowest spatial relevance (Figure 4). Only one of the southern counties in the upper Tana river watershed where RFS IAP Project GEF ID 9139 works, Laikipia, was classed having high spatial relevance for the RFS IAP total index while both Laikipia and Muranga had high spatial relevance in the normalized index (Figure 5 and Table 19). Nyeri had moderate and Nyandaru had low spatial relevance for both indices. Laikipia's relevance was higher because of its high climate change vulnerability (it is the most northern of the project's

counties) and somewhat large amount of smallholder agriculture. Meanwhile, Nyandaru had low incidence of food insecurity, keeping its spatial relevance low.

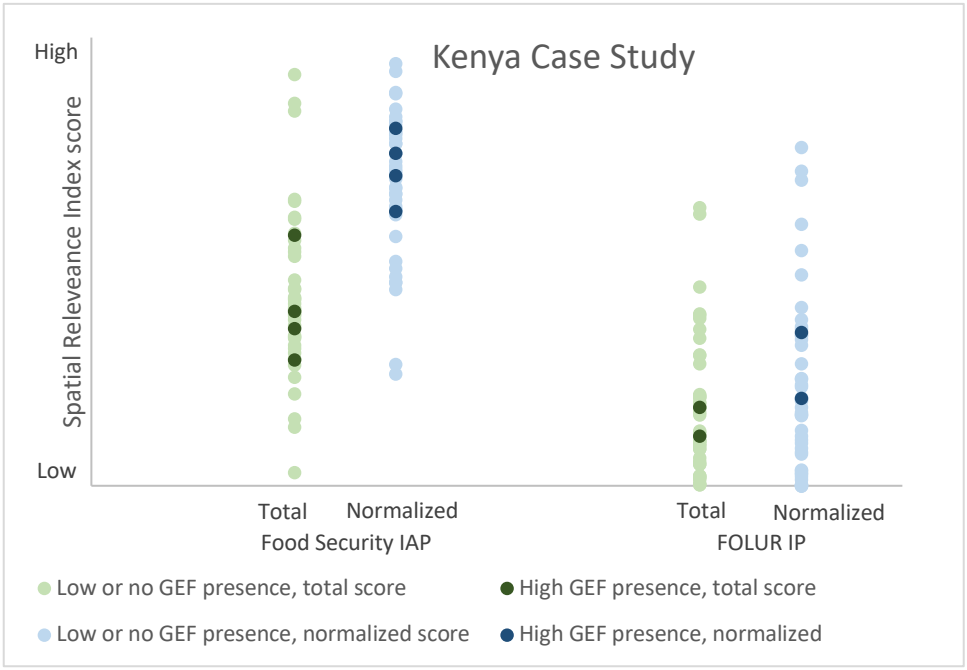


Figure 4. Relative spatial relevance index scores for all counties in Kenya for the RFS IAP and the FOLUR impact program. GEF presence refers to the presence of projects GEF ID 9139 (RFS IAP) and GEF ID 10598 (FOLUR impact program) only.

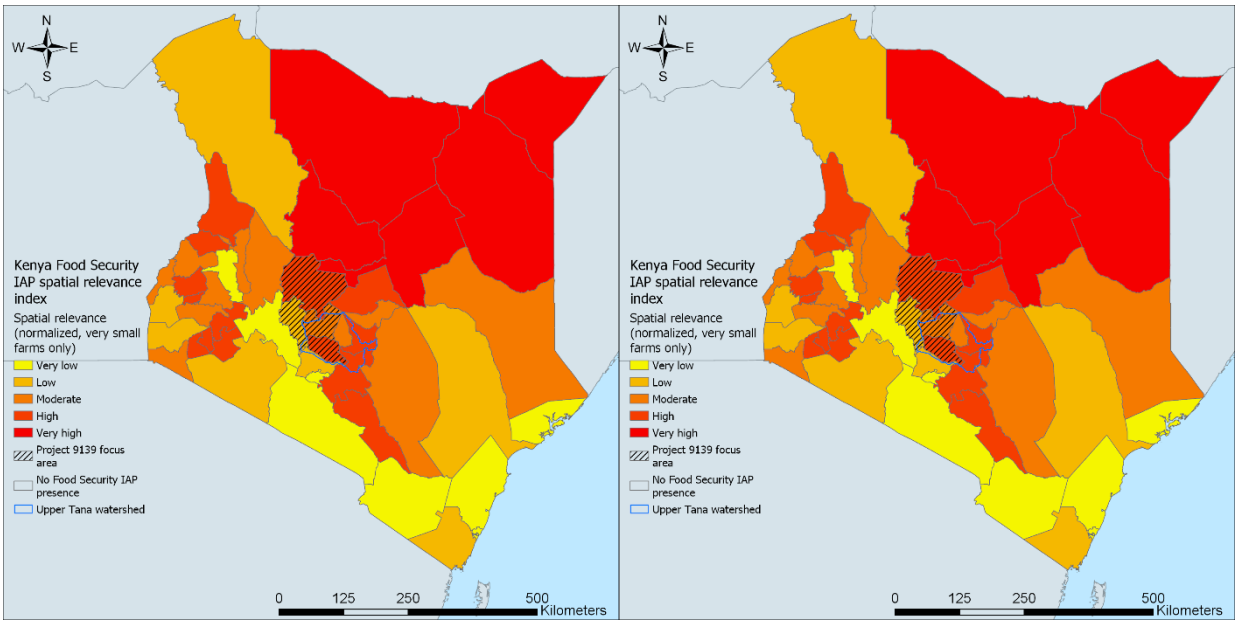


Figure 5. Spatial results for the RFS IAP total (left) and normalized by county area (right) spatial relevance index for the Kenya case study.

Table 19. Kenyan counties with the highest RFS IAP spatial relevance scores.

RFS IAP							
Total Spatial Relevance index				Normalized Spatial Relevance Index			
Rank	Score	County	Project GEF ID 9139 focus area	Rank	Score	County	Project GEF ID 9139 focus area
1	0.64	Marsabit	No	1	0.66	Isiolo	No
2	0.60	Kitui	No	2	0.65	Wajir	No
3	0.59	Wajir	No	3	0.61	Marsabit	No
4	0.45	Isiolo	No	4	0.61	Samburu	No
5	0.44	Narok	No	5	0.59	Mandera	No
9	0.39	Laikipia	Yes	10	0.56		
25	0.27	Nyeri	Yes	25	0.48		
32	0.25	Murang'a	Yes	17	0.52		
41	0.20	Nyandarua	Yes	37	0.43		

Finding 3—While the areas of highest spatial relevance for the FOLUR impact program were in southern Kenya, the FOLUR project areas had moderate spatial relevance. The environmental drivers and areas of the major commodities included in the FOLUR impact program child project in Kenya (Project GEF ID 10598) overlapped for the most part, as the areas of deforestation and potential reforestation were in southern Kenya along with the areas of coffee and maize (Figure 6). However, some of the coastal counties had both high deforestation and area suitable for reforestation—and the FOLUR project is not working in that area of the country. Of the two FOLUR impact program project counties which border the Mt. Elgon ecosystem on the border with Uganda, Trans Nzoia had the higher spatial relevance, achieving high relevance in the normalized index and moderate in the total (Figure 7 and Table 20). Bungoma had moderate normalized relevance and low total relevance. Both had fairly high deforestation and area of maize farms but little area suitable for reforestation and low area of coffee farms.

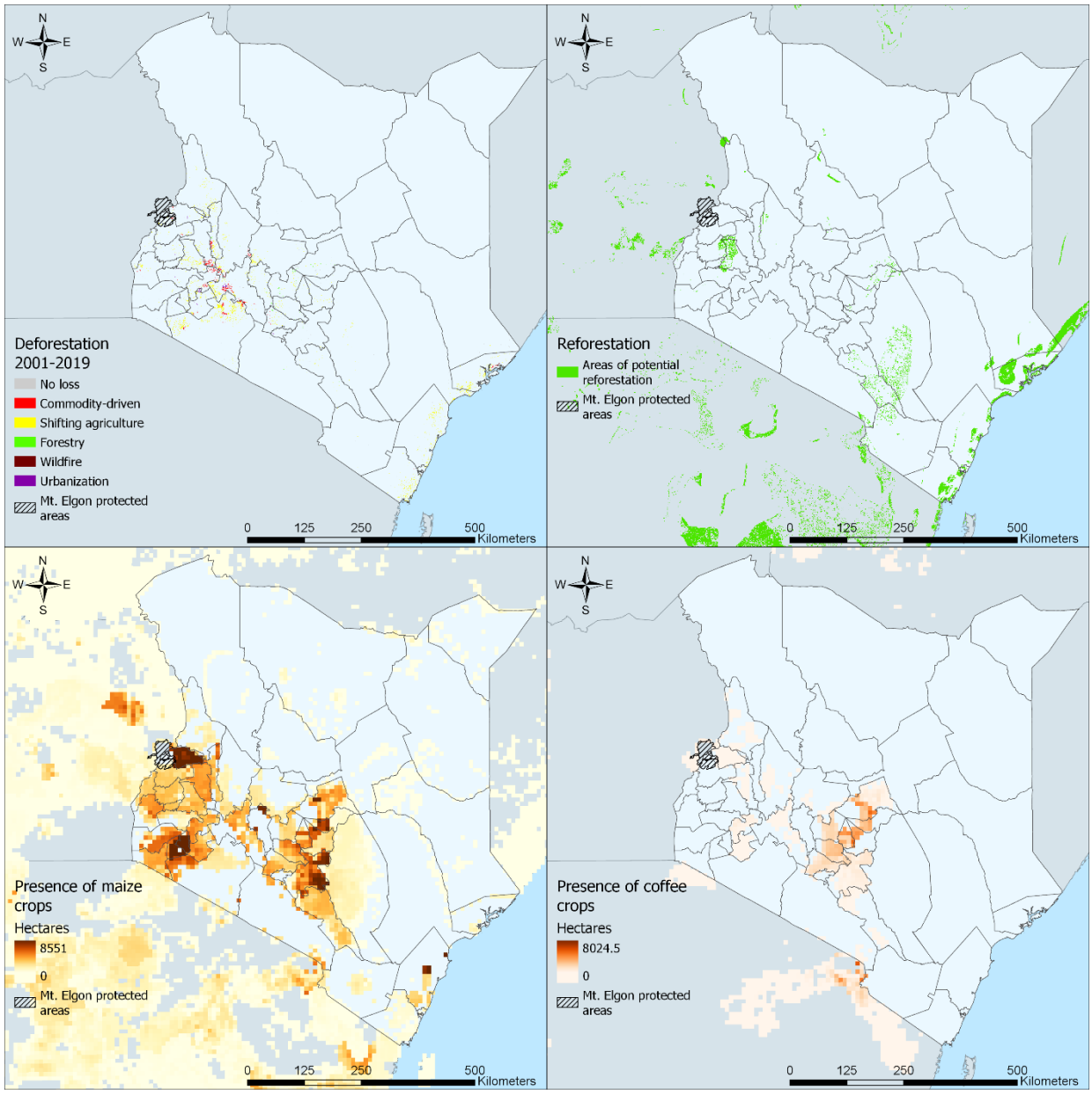


Figure 6. Input layers representing deforestation (upper left, commodity-driven and shifting cultivation only), area suitable for reforestation (upper right), area of maize farms and area of coffee farms, into the Kenya FOLUR impact program spatial relevance index.

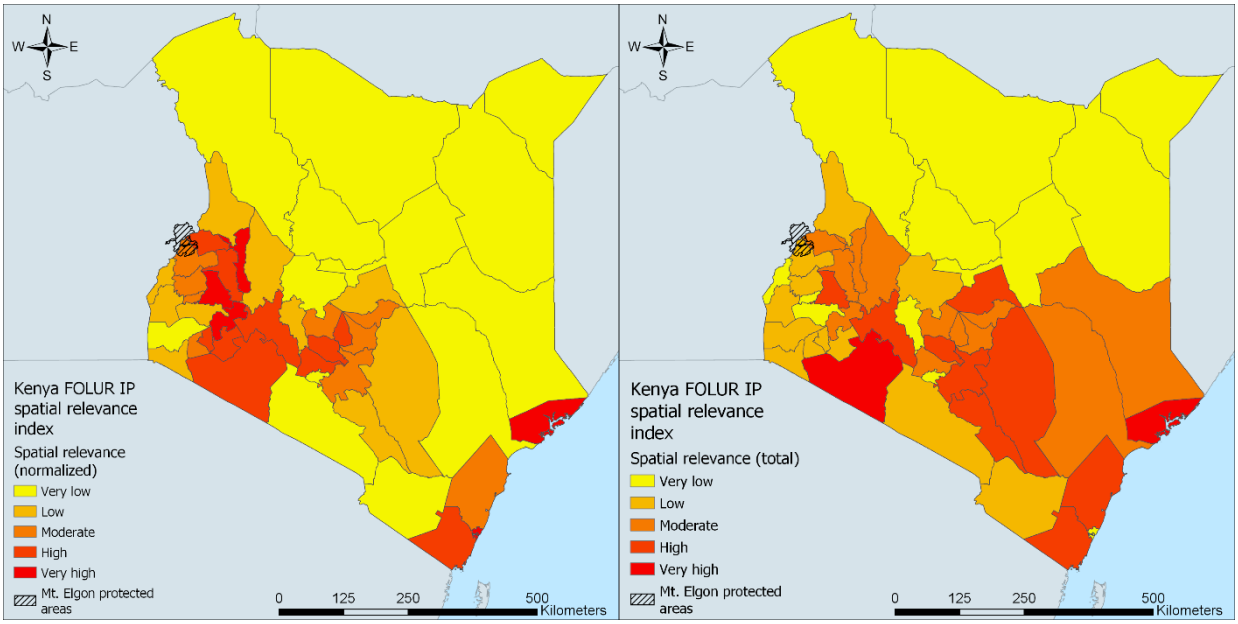


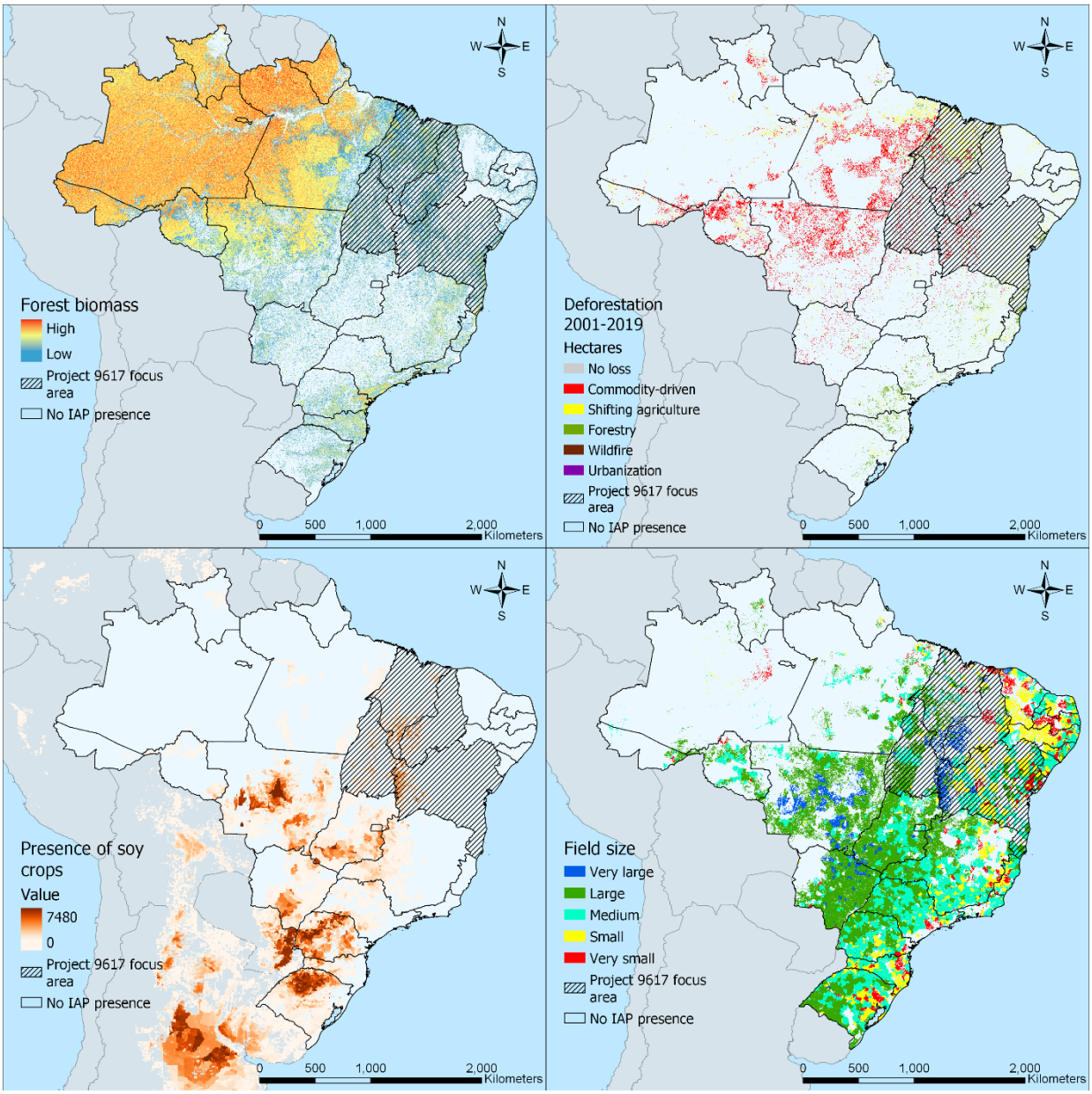
Figure 7. Spatial results for the FOLUR impact program total (left) and normalized by county area (right) spatial relevance index for the Kenya case study.

Table 20. Kenyan counties with the highest FOLUR impact program spatial relevance scores.

FOLUR IAP							
Total Spatial Relevance index				Normalized Spatial Relevance Index			
Rank	Score	County	Borders Mt. Elgon ecosystem	Rank	Score	County	Borders Mt. Elgon ecosystem
1	0.44	Lamu	No	1	0.53	Nandi	No
2	0.43	Narok	No	2	0.49	Lamu	No
3	0.31	Kitui	No	3	0.48	Mombasa	No
4	0.27	Machakos	No	4	0.41	Kericho	No
5	0.27	Meru	No	5	0.37	Elgeyo-Marakwet	No
19	0.12	Trans Nzoia	Yes	11	0.24		
27	0.08	Bungoma	Yes	22	0.14		

Brazil subnational analysis

Finding 1—The GGP IAP spatial relevance indices showed high spatial relevance in the central portions of Brazil, including one of the program's child project focal areas—the Bahia state. The geospatial layers included in the GGP IAP spatial relevance indices showed diverging patterns—with the forest-related indicators (forest biomass and deforestation) highest in the Amazon rainforest biome, while the agricultural indices (smallholder farming and presence of soy farms) and biodiversity highest in northeastern Brazil and southern Brazil (Figure 8). The result was that, according to the total spatial index, the areas with the highest spatial relevance were the large states in the central portion of the country—Mato Grosso, Minas Gerais, Bahia and Pará (Figure 9, Figure 10 and Table 21). The normalized index yielded quite different results, with some southern states high in soy and biodiversity hotspot area having the highest spatial relevance. However, southern Brazil had very low commodity-driven deforestation, meaning the large amount of soy in the area is unlikely a large driver of deforestation and the remaining forest there is less at risk than in other areas of the country. Of Project GEF ID 9617's focus states, Bahia has the highest spatial relevance, rating very high for total and moderate for normalized. Tocantins had moderate spatial relevance for both indices and Maranhão and Piauí had moderate total and low normalized spatial relevance.


Forest biomass
High
Low
Project 9617 focus area
No IAP presence
0 500 1,000 2,000 Kilometers
Deforestation 2001-2019
Hectares
No loss
Commodity-driven
Shifting agriculture
Forestry
Wildfire
Urbanization
Project 9617 focus area
No IAP presence
0 500 1,000 2,000 Kilometers
Presence of soy crops
Value
7480
0
Project 9617 focus area
No IAP presence
0 500 1,000 2,000 Kilometers
Field size
Very large
Large
Medium
Small
Very small
Project 9617 focus area
No IAP presence
0 500 1,000 2,000 Kilometers

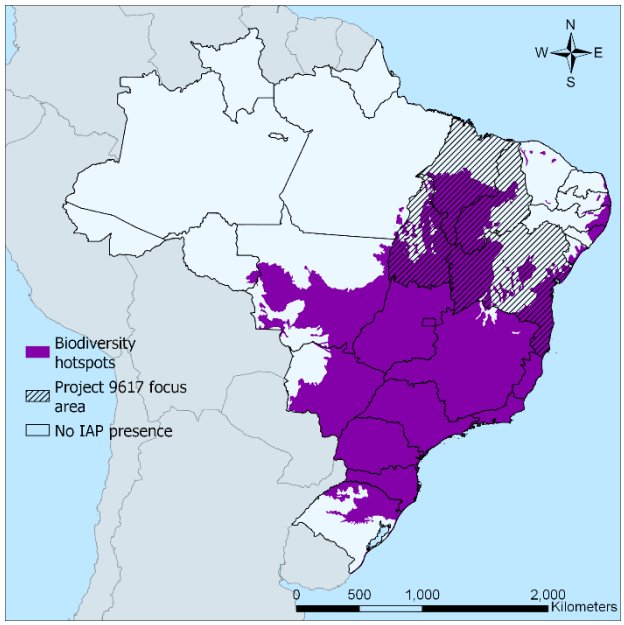


Figure 8. Input layers representing forest biomass (top left), deforestation (top right, commodity-driven only), area of soy farms (middle left), area of smallholder farms (middle right, small and very small field sizes only) and biodiversity hotspots (lower left) into the Brazil Commodity IAP spatial relevance indices.

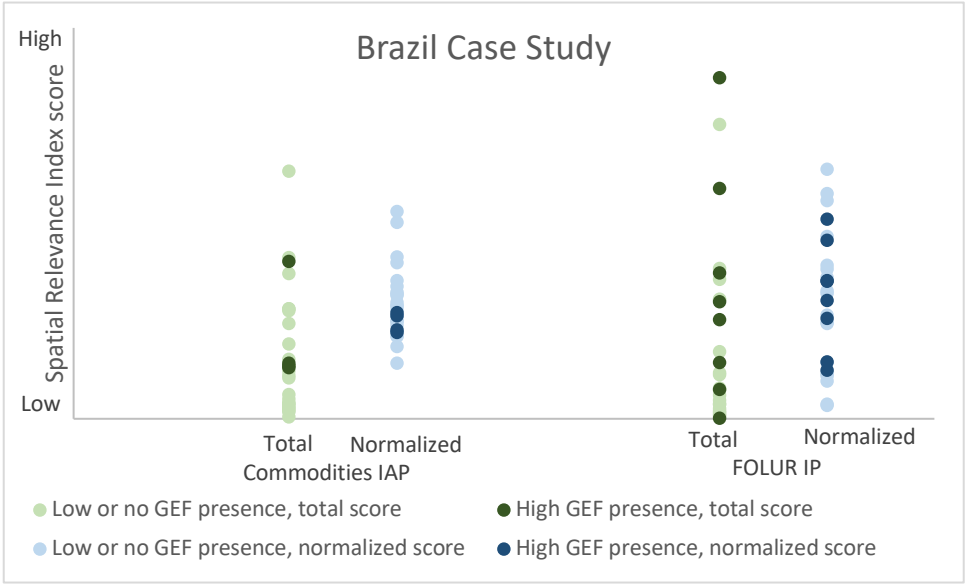


Figure 9. Relative spatial relevance index scores for all states in Brazil for the GGP IAP and the FOLUR impact program. GEF presence refers to the presence of projects GEF ID 9617 (GGP IAP) and GEF ID 10468 (FOLUR impact program) only.

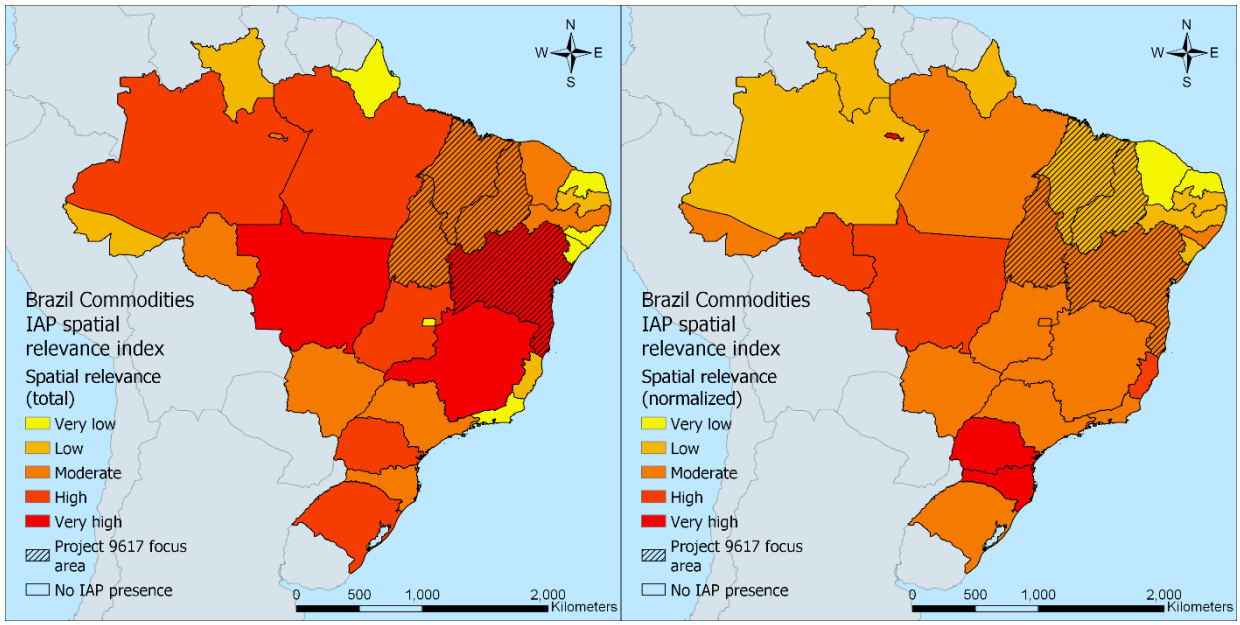


Figure 10. Spatial results for the GGP total (left) and normalized by county area (right) spatial relevance indices for the Brazil case study.

Table 21. Brazilian states with the highest GGP IAP spatial relevance index scores.

GGP IAP							
Total Spatial Relevance index				Normalized Spatial Relevance Index			
Rank	Score	State	Project GEF ID 9617 focus area	Rank	Score	State	Project 9617 GEF ID focus area
1	0.57	Mato Grosso	No	1	0.48	Paraná	No
2	0.37	Minas Gerais	No	2	0.45	Santa Catarina	No
3	0.36	Bahia	Yes	3	0.37	Espírito Santo	No
4	0.33	Pará	No	4	0.36	Mato Grosso	No
5	0.25	Paraná	No	5	0.32	Rondônia	No
11	0.13	Maranhão	Yes	21	0.21		
12	0.12	Piauí	Yes	23	0.20		
14	0.12	Tocantins	Yes	14	0.24		

Finding 2—the focus states of the FOLUR impact program child project in the southern Cerrado biome had mostly high spatial relevance. The Cerrado biome, the focus of Project GEF ID 10468, cuts a large swath of Brazil from north to south between the interior Amazon region and the coastal Atlantic forest biome (Figure 11). It is likely that the FOLUR project will focus in the southern portion of the biome in productive landscapes in six states. These southern portions of the ecosystem have high amounts of soy and cattle, while deforestation is spread throughout the ecosystem (although not as high as in the eastern Amazon region). Most of the ecosystem has low amounts of area suitable for reforestation compared to the eastern Amazon region and the central Atlantic coastal states. Two of the states where the project is likely to work had very high total spatial relevance (Mato Grosso and Minas Gerais) and three had high relevance (Bahia, Goiás and Mato Grosso do Sul). The only state that is included in the likely

project area with very low spatial relevance was the Distrito Federal—a small state covering the capital city of Brasilia with low forest cover and deforestation. Some states outside of the Cerrado with the highest spatial relevance included Paraná and Rondônia, with very high normalized spatial relevance and high total spatial relevance. Paraná had very high soy area and potential for reforestation although low deforestation, meaning soy is unlikely a large driver of deforestation in the state. In contrast, Rondônia had very high deforestation and cattle area.

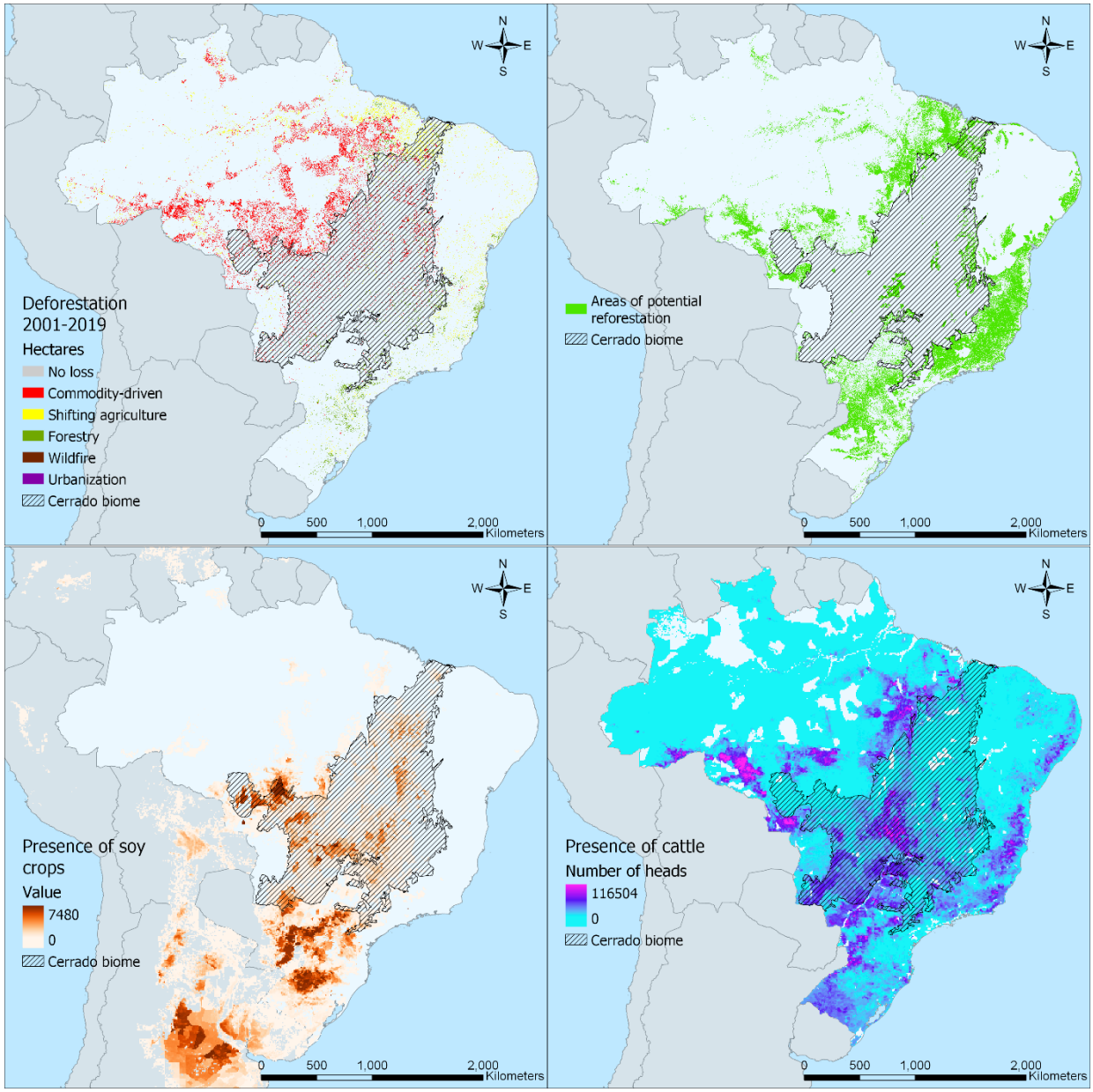


Figure 11. Input layers representing deforestation (top left, commodity-driven and shifting cultivation only), area suitable for reforestation (upper right), area of soy farms (lower left) and location of cattle (lower right) into the Brazil FOLUR impact program spatial relevance indices.

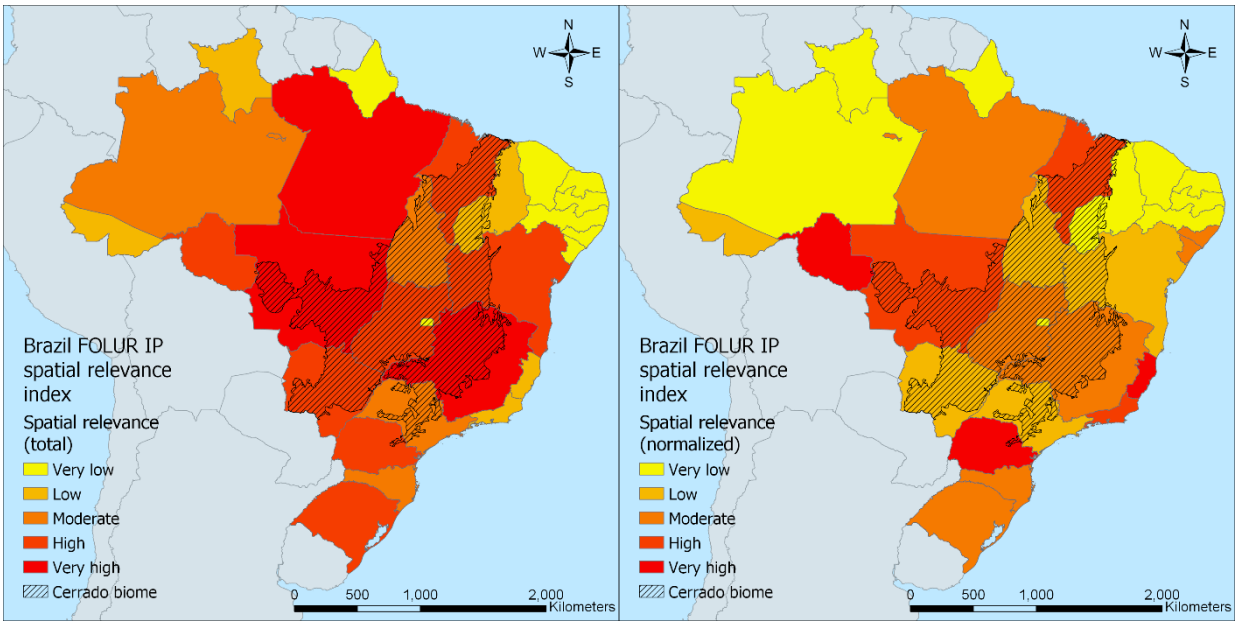


Figure 12. Spatial results for the FOLUR impact program total (left) and normalized by county area (right) spatial relevance index for the Brazil case study.

Table 22. Brazilian states with the highest FOLUR impact program spatial relevance scores.

FOLUR IAP							
Total Spatial Relevance index				Normalized Spatial Relevance Index			
Rank	Score	State	Percent of area in Cerrado ecosystem	Rank	Score	State	Percent of area in Cerrado ecosystem
1	0.79	Mato Grosso	40%	1	0.57	Rondônia	0%
2	0.68	Pará	0%	2	0.52	Paraná	2%
3	0.53	Minas Gerais	56%	3	0.50	Espírito Santo	0%
4	0.35	Bahia	26%	4	0.46	Maranhão	64%
5	0.34	Maranhão	64%	5	0.42	Rio de Janeiro	0%
9	0.27	Goiás	97%	11	0.32		
10	0.23	Mato Grosso do Sul	60%	14	0.27		
12	0.13	Tocantins	91%	16	0.23		
16	0.07	Piauí	37%	19	0.13		
27	0.00	Distrito Federal	100%	21	0.11		

C. Country Case Studies

The objectives of the country case studies were to provide a deeper understanding of the design, process, and results of the IAPs/impact programs at the country level, for instance on governance issues, consistent with the evaluation matrix and to assess the similarities and differences between the IAP and impact program child projects and identify any links to understand how the GEF integrated approach has evolved in a given country from GEF-6 to GEF-7.

Country selection

Based on the objectives above, three countries were purposively selected for case studies according to the following criteria.

IAP/impact program evolution: Selected countries must have both IAP and impact program child projects present. Selection preference is given to countries where the IAP and impact program projects are on related themes (e.g., sustainable cities IAP and impact program, food security IAP and FOLUR impact program), rather than disparate themes (e.g., cities IAP and FOLUR impact program), to better observe the evolution from IAPs to impact programs.

IAP/impact program coverage: Selected countries must together cover all three IAP programs, both FOLUR and SC impact programs, and at least two SFM impact programs.

Regional coverage: Selected countries should together cover the main three global regions where these programs are being or will be implemented (Asia, Latin America, and Africa).

Maturity: At least one child project from each IAP should be included that is at or nearly midterm. As of this writing, known countries with a child project that has undergone midterm review are: Ethiopia (Food Security IAP), Senegal and Malaysia (Sustainable Cities IAP), and Brazil, Indonesia, Paraguay, and Sierra Leone (Commodities IAP).

Diversity in Agencies: Selected countries should cover a range of GEF Agencies implementing the child projects, including both hub and non-hub Agencies.

In terms of the application of the criteria, the IAP/impact program evolution was given the primary position, and thus the countries shown are only those that have both IAP and impact program child projects present. The secondary criterion was the IAP/impact program coverage, giving preference to countries that cover the most programs. Employing this criterion in combination with regional coverage yielded these possible selections: in South America, Brazil; in Asia, either China or India, and in Africa, either Kenya or Tanzania. The fourth criterion of maturity confirmed the selection of Brazil but did not further narrow the country selection in Asia. Applying the IAP/impact program coverage criteria in preference to maturity meant that Ethiopia, as a country with an MTR, was not selected for a full case study, in order to select a

country that could cover the Drylands impact program. Applying the final criteria of diversity in Agencies resulted in this final selection: Brazil, China, and Kenya (Table 23).[1]

Table 23: Countries selected for case studies and key attributes

Country	IAP/impact program programs covered	Child Projects	Agencies
Brazil	GGP IAP	Brazil: Taking Deforestation out of Soy Supply Chain (GEF ID: 9617, Under Implementation)	UNDP/CI
		Generating Responsible Demand for Reduced Deforestation Commodities (GEF ID: 9182, Under Implementation)	WWF
	Cities IAP Cities impact program	Cities IAP: Promoting Sustainable Cities in Brazil through Integrated Urban Planning and Innovative Technologies Investment (GEF ID: 9142, Under Implementation)	UNEP
		Promoting integrated metropolitan planning and innovative urban technology investments in Brazil (GEF ID: 10465, Included in Council-Approved PFD)	
	FOLUR impact program	Sustainable Multiple Use Landscape Consortia - Vertentes Project (GEF ID: 10468, Included in Council-Approved PFD)	World Bank
	Sustainable Landscapes Amazon impact program	Brazil Amazon Sustainable Landscapes Phase 2 Project (Pending)	N/A
China	Cities IAP Cities impact program	Sustainable Cities IAP – China Child Project (GEF ID: 9223, Under Implementation)	World Bank

[1] GEF Agencies with IAP and impact program projects in Tanzania are IFAD, WWF-US, and FAO.

Country	IAP/impact program programs covered	Child Projects	Agencies
		China Sustainable City Impact Program (Pending)	
	FOLUR impact program	Innovative transformation of China's food production systems and agroecological landscapes (GEF ID: 10246, Included in Council-Approved PFD)	World Bank
Kenya	RFS IAP	Establishment of the Upper Tana Nairobi Water Fund (GEF ID: 9139, Under Implementation)	IFAD
	FOLUR impact program	Integrated Landscape Management for conservation and restoration of the Mt. Elgon Ecosystem in Western Kenya (GEF ID: 10598, Included in Council-Approved PFD)	FAO
	Sustainable Landscapes Drylands impact program	Strengthening forest management for improved biodiversity conservation and climate resilience in the Southern rangelands of Kenya (GEF ID: 10292, Included in Council-Approved PFD)	IUCN

Case study methods and process

The conduct of the case studies was informed by a Guidance Note for Country Case Studies, to ensure that the same data gathering approach was used, so that observations and emerging findings are coherent and comparable across all countries and projects reviewed. Due to continued travel restrictions and safety considerations as a result of the ongoing COVID-19 pandemic, the country case studies were conducted remotely, with one exception. The national consultant for the Kenya case study visited a site where the RFS IAP project is being implemented; all COVID-related national and local guidelines were followed throughout the duration of the field visit.

The country case studies took a mixed methods approach, using both desk review of project and national documents and data and interviews. Desk review included relevant Program Framework Documents; Project Documentation (both at design and in implementation, including PIRs and MTRs); relevant national data and statistics, country-specific literature, and policies and regulations; and previous evaluations (GEF and otherwise) on the topic and country. Interviews were guided by a specific protocol developed for country-level stakeholders. Interviewees included national and sub-national government officials, national Convention focal points, Agencies, partner institutions active in executing the child projects and managing the stakeholder platforms, external experts, GEF and non-GEF development partners active in the sector, and private sector and civil society organizations. Geospatial analysis was also conducted for the food systems related projects in Kenya and Brazil.

Importantly, the draft versions of each country case study were shared with the GEF focal points and the full list of interviewees for participatory stakeholder validation. GEF focal points and other stakeholders provided comments on the case studies, which were duly considered in their finalization. In the case of Kenya, a virtual closing workshop was also held with the GEF OFP and other stakeholders to review the findings.

BRAZIL Country Case Study Report

Introduction

This Brazil Case Study is part of the broader Formative Evaluation of the Global Environment Facility (GEF) Integrated Approach to Address the Drivers of Environmental Degradation and provides a deeper understanding of the design, process, and current results or preparation of the GEF-6 Integrated Approach Pilot (IAP) and of the GEF-7 Impact Program (impact program) in Brazil. It was designed to assess the similarities and differences between the IAP and impact program child projects and to understand how the GEF integrated approach has evolved from the GEF-6 to GEF-7 financing cycles in Brazil.

Brazil has a total of six child projects under the following programs: Sustainable Cities IAP (SC-IAP); Sustainable Cities impact program (SC-impact program); Good Growth Partnership (GGP) IAP;[1] Food Systems, Land Use and Restoration Impact Program (FOLUR) impact program; and the Amazon Sustainable Landscapes impact program. The case study covers all six IAP and impact program child projects, as shown in the table below.

Brazil GEF-6 IAP and GEF-7 impact program – Key project information

GEF ID	Child project title and main scope	Coverage	GEF Agency	Status	Finance		
					GEF grant	Co-finance	Sources of Cofinance
					$ million		
Sustainable Cities IAP							
9142	Integrated Urban Planning and Innovative Technologies Investment	Brasilia, Recife, Sustainable Cities Platform, Sustainable Cities Innovation Observatory, national	UNEP	On-going	22.6	195	Ministry of Science, Technology and Innovation, Municipality of Recife, Sustainable Cities Programme, UNEP, COMPESA (state water utility), Government of the

[1] Previously called the Taking Deforestation out of Commodity Supply Chains program.

GEF ID	Child project title and main scope	Coverage	GEF Agency	Status	Finance		
					GEF grant	Co-finance	Sources of Cofinance
					$ million		
							Federal District utilities, in-kind
Sustainable Cities impact program							
10465	Integrated urban planning for Brazilian metropolitan regions	Belem, Teresina, Florianopolis, national	UNEP	Under preparation	12.5	120	State, municipal investments, loans
GGP IAP							
9617	Taking Deforestation Out of the Soy Supply Chain	Maranhão, Tocantins, Piaui, and Bahia states	UNDP	On-going	6.6	28.2	GEF Agency, Beneficiaries, Central govt.
9182	Generating Responsible Demand for Reduced-Deforestation Commodities	Global	WWF	On-going	8.7	42.3	GEF Agency, Civil Society Organizations
FOLUR impact program							
10468	Sustainable Multiple Use Landscape Consortia - Vertentes Project	Tocantins-Araguaia, Pantanal, Paranaiba/Paraná, and São Francisco Basins	World Bank	Under preparation	24.58	172.00	GEF Agency, Government of Brazil
Sustainable Landscapes Amazon impact program							
10749	Brazil Amazon Sustainable Landscapes Project – Phase 2	Amazon Region	World Bank	CEO Endorsement Pending	19.28	120.396	GEF Agency, Central and local govts.,

GEF ID	Child project title and main scope	Coverage	GEF Agency	Status	Finance		
					GEF grant	Co-finance	Sources of Cofinance
					$ million		
							Civil Society Organizations

Due to continued travel restrictions and safety considerations as a result of the ongoing COVID-19 pandemic, the Brazil case study was conducted remotely by three senior international consultants and a Brazil-based national consultant. The team triangulated its documentation review (including GEF Chief Executive Officer [CEO] Endorsement documents, project implementation review [PIR] and midterm review [MTR] reports, World Bank project appraisal documents) with individual interviews with 29 staff from the Government of Brazil, GEF Agencies, municipal departments, and project partners. Sixteen of these interviews were conducted in Portuguese by the national consultant. Given the current COVID-19 pandemic, no field verification could take place.

GEF ID 9142: Sustainable Cities IAP – Promoting Sustainable Cities in Brazil through Integrated Urban Planning and Innovative Technologies Investment

This project was CEO endorsed in January 2017 and began execution in April 2018; the project closing date is set for April 30, 2022. The grant of $22.6 million came from the Sustainable Cities Trust Fund (20 percent of total), from the Biodiversity Focal Area (BD-4 Program 9) (16 percent), with the remaining balance from the Climate Change Focal Area (CCM-2 Program 3). The global environmental benefits (GEB) pursued include the improved management of 415 ha of landscapes and seascapes, the sustainable land management of 80 ha, and the abatement of 3.8 million metric tons carbon dioxide equivalent (MMT CO_2eq). The oversight of the GEF grant is managed by a Task Manager in the United Nations Environment Programme's (UNEP) Brazil office in Brasilia, with the Fund Management Officer based in the Nairobi headquarters.

The project pursues the following objective: "To Promote Sustainable Cities in Brazil through Integrated Urban Planning and Innovative Technologies Investment". This objective is to be achieved via the implementation of three components: 1) Integrated Planning Pilots; 2) Integrated Investment Pilots; and 3) Knowledge Platform. The first two components are to be implemented in two recipient cities: Brasilia (the capital of the Federal District) and Recife (the capital of the state of Pernambuco). The national partner is the Ministry of Science, Technology and Innovation (MCTI); the Government of the Federal District (GFD) and the Municipality of Recife are the city partners, while the National Platform for Sustainable Cities (PCS) and the Center for Strategic Studies and Management (CGEE) are implementing the knowledge platform. The project cofinancing of $195 million includes investments of $133.6 million by COMPESA (the water utility company of the State of Pernambuco) for the Recife component,

and by CAESB (the water utility company for the Federal District) and the District Service System for Urban Cleaning for the Brasilia component, complemented by in-kind contributions by all partner institutions.

The expected project outputs for Brasilia are: a) an Environmental Information System (SISDIA) including Economic Ecological Zoning guidelines and data, online and available for GFD sustainable planning and public access; b) new data and studies to populate SISDIA to be collected, developed and included; c) climate risk assessment and scenarios to be completed and a 'climate bill' to be drafted; d) citizens are engaged in FDG public policy making; e) springs preservation is completed, best practices implemented and open dumpsite monitored towards decommissioning; f) solar energy pilots and promotion are completed; and g) lessons learned are collected and structured to feed into the local and national platforms.

The expected project outputs for Recife are: a) integrated and resilient plans for Recife through enhanced popular participation, more evidence and live and open data; b) geo-referenced Integrated Management System (IMS) tested; c) financial and technical viability of operating two solar boats across the Capibaribe river assessed; d) banks of the Capibaribe River urbanized in two sections; d) filtering garden cleaning the water through the use of vegetation established; and e) lessons learned collected and structured to serve as input to the national platform.

The expected project outputs for the Knowledge Platform are the following: a) an operational Knowledge Platform online; b) operational modules for the Knowledge Platform online portal; c) skills development training designed and delivered; d) mayors and politicians mobilized to join the sustainable cities platform; e) sustainable solutions to six urban planning and investment challenges identified and delivered to Brasilia, Recife and to the National Platform for Sustainable Cities; and f) solutions for urban planning and investments promoted to up to 300 other cities.

GEF ID 10465: Sustainable Cities impact program – Promoting integrated metropolitan planning and innovative urban technology investments in Brazil

This child project is currently under preparation by UNEP and is expected to be submitted for GEF CEO endorsement in June 2021. The national partner is MCTI, and the metropolitan areas of Belem, Teresina, and Florianopolis have been selected as the recipients of in-situ grant activities, in addition to activities of a national focus. The GEBs pursued are biodiversity conservation and climate change mitigation, in the measure of 12,942 hectares (ha) of terrestrial protected areas, 23,342 ha of landscapes under improved practices, and 24.5 million metric tons carbon dioxide equivalent (MMT CO_2eq) abated, of which 4.9 million are direct emissions. The project is being prepared by a team of Urban and Climate Change Specialists from the World Resources Institute (WRI) based in Sao Paulo and Porto Alegre, with back-stopping from the UNEP Task Managers based in Brasilia and Panama.

The objective of the project is to “Demonstrate how Brazilian metropolitan regions can reduce GHG, conserve biodiversity and achieve economic, social and environmental co-benefits

through an integrated urban planning approach". At the project identification form (PIF) stage, the components were defined as: 1) integrated planning; 2) integrated investments; 3) innovative financing; and 4) knowledge management and replication. The GEF grant of $12.5 million will be financed for $4 million from the Sustainable Cities impact program (SCimpact program) multifocal area allocation, for $5.8 million from the climate change focal area System for Transparent Allocation of Resources (STAR) allocation, and for $2.7 million from the biodiversity focal area STAR allocation. Tentative project cofinancing at PIF stage is of $120 million, consisting of state and municipality investments and loans for 98 percent, and 2 percent of in-kind contributions and private sector investments.

At PIF stage, the main expected outputs of the four project components include: 1) geo-referenced digital metropolitan plans and platforms for the three cities; GHG emissions inventories for Teresina and Florianopolis; design of Low Emission Zones (LEZ) for the urban cores of those two cities; 2) recovering urban green areas in the three cities; pilot investments in the LEZs of Teresina and Florianopolis; biodiversity conservation and public transport investments in Belem; 3) financial mechanisms tested in Belem; new approaches for payment of environmental services and green areas protection developed; a portfolio of related projects for Brazilian cities prepared; and 4) creation of a national network of living labs and knowledge platform; training on sustainable urban planning and financing.

GEF ID 9182: GGP IAP – Generating Responsible Demand for Reduced-Deforestation Commodities

Brazil is part of this global child project, referred to as the Demand Project, which was approved for implementation in January 2017 and will close in 2022. World Wildlife Fund's (WWF) US Chapter is the Implementing Agency, and the Executing Agencies with activities in Brazil are WWF Brasil and Proforest. Additional cofinancing support comes from the Gordon and Betty Moore Foundation, the Stockholm Environment Institute, and the Global Canopy Program.

This project is conducted at the global level and intends to lead "companies, investors, governments and consumers to reduced-deforestation commodity sourcing." The entire program includes five different components: 1) Mainstreaming demand for reduced deforestation commodities with major buyers and traders; 2) Strengthening the enabling environment for reduced deforestation commodities in demand markets; 3) Promoting reduced deforestation commodities in major markets; 5) Advancing supply chain transparency, traceability & decision support tools; and 6) Monitoring and evaluation. Expected outcomes at design included increased investor and government capacity, consumer awareness, market intelligence and transparency tools, and global demand and finance projections for project support and knowledge management. In Brazil, the Demand Project is focused on supporting global soy traders in incorporating responsible procurement practices to reduce its indirect contribution to deforestation of the Cerrado biome. Several components of the Demand Project include coordination with the Brazil Production Child Project described below, including a soy traders' platform, the Transformative Transparency Portal, and case study development.

GEF ID 9617: GGP IAP – Taking Deforestation Out of the Soy Supply Chain

The Brazil child project Taking Deforestation Out of the Soy Supply Chain (GEF Project ID 9617) was approved for implementation in March 2017 and will end in December 2021. The United Nations Development Programme (UNDP) is the Implementing Agency, and Conservation International (CI) Brasil is the Executing Agency. Additional executing partners include Fundação Brasileira de Desenvolvimento Sustentável (FBDS), Sociedad Rural Brasileira (SRB),[2] and Empresa Brasileira de Pesquisa Agropecuária (EMBRAPA). Expected cofinancing of $195 million includes investments by FBDS, UNDP Brazil, SRB (including beneficiaries), and the Ministerio do Meio Ambiente (MMA).

The objective of this child project is to "To reduce the threat to biodiversity that the advancing agricultural frontier is posing in the MATOPIBA[3] region, through a supply chain approach that solves the underlying root causes of deforestation from soy." Working in the Cerrado biome, the project includes five components: 1) Dialogue, policies, and enforcement, 2) Farmer support systems, 3) Land use planning, 4) Supply chain integration, and 5) Adaptive Management, Learning and M&E. Project documents also state that "The project […] focuses on promoting a dialogue oriented to building a shared vision on sustainable landscapes among key stakeholders: government, companies, civil society and the productive sector."

The project's activities are concentrated in the western Bahia and central Tocantins areas, in 10 priority municipalities.[4] Other activities include the four states in the region. The project is supporting several outcomes under these components: 1) A shared vision on expansion of the production of agricultural commodities in the MATOPIBA region in combination with the conservation of biodiversity and ecosystem services through sustainable land management and the creation of sustainable productive landscapes 2) Improved environmental management; 3) A system of support in the four focal areas prepared and implemented that will help farmers to adopt sustainable management of their properties and sustainable agricultural practices; 4) Improved planning for expansion of production and conservation; 5) Increased market demand for responsibly sourced soy; and 6) Financial sector engaged in the promotion of sustainable soy.

GEF ID 10468: FOLUR impact program – Sustainable Multiple Use Landscape Consortia - Vertentes Project

The FOLUR impact program child project is currently under preparation by its Implementing Agency, the World Bank, and its coordination agencies the Ministry of Environment (MMA), and

[2] SRB left the project in 2019 and EMBRAPA was engaged to act as the stakeholder to support direct engagement with rural producers.

[3] MATOPIBA is an acronym for the states of Maranhão, Tocantins, Piauí and Bahía.

[4] In the state of Bahia (BA): Barreiras, Luis Eduardo Magalhães, São Desidério, Formosa do Rio Preto and Riachão das Neves. In the state of Tocantins (TO): Palmas, Porto Nacional, Silvanópolis, Santa Rosa do Tocantins and Monte do Carmo.

the Ministry of Agriculture, Livestock and Food Supply (MAPA) . The World Bank expects to submit the project for CEO endorsement by June 2021. Because the project is still in preparation, many details are subject to change, including the names of the components, targets, details of the intervention areas, and other elements. The proposed project is expected to have four components: 1) Development of Integrated Landscape Management (SLM) approach; 2) Promotion of sustainable food production practices and responsible value chains; 3) Conservation and restoration of natural habitats and mainstreaming biodiversity; and 4) Project Management and Knowledge Management.

The proposed objective of the project is to "increase the area under sustainable land management and restoration in selected beef cattle and soybean production landscapes in Brazil." The project will take place in the Cerrado region of Brazil and will include areas that are important for beef and soybean production and are located within nine Productive Landscapes (PLs) covering approximately 47,159,091 ha in the states of Bahia, Goiás, Mato Grosso, Mato Grosso do Sul, and Minas Gerais, and in the Federal District. The project will focus on areas of high land degradation and "combine actions to build the capacity and awareness of the rural population about integrated natural resources management, strengthening public support services and infrastructure (research and innovation, land regularization, and rural roads rehabilitation and maintenance), and support for sustainable business initiatives of groups of small producers to foster their greater integration with remunerative value-chains."

At the current preparation stage, project goals are to restore 49,800 ha of land, of which 40,000 are agricultural land. In addition, the project targets 578,000 ha of landscapes under improved agricultural practices.[5] The project is also expected to directly mitigate 21 MMT CO_2e over 20 years.

GEF ID 10749: Amazon Sustainable Landscapes impact program – Brazil Amazon Sustainable Landscapes Project – Phase 2

This child project builds on a long history of GEF support to the Brazilian part of the Amazon. The Brazil Amazon Sustainable Landscapes Project – Phase 2 (ASL2) project is an extension (officially additional finance in the World Bank project system) of a national project, Amazon Sustainable Landscapes Project – ASL1 (GEF Project ID 9664), which was approved for implementation in August 2017. ASL1 also built on the Amazon Region Protected Areas Program - ARPA (GEF Project ID 771), a program that started in 2000.

The Brazil ASL project includes four components: 1) Amazon Protected Areas System, 2) Integrated Landscape Management, 3) Policies for Conservation, Sustainable Use, and Restoration,[6] and 4) Capacity Building, Cooperation and Project Management. Total GEF

5 Targets based on project document submitted in Dec. 2020.

[6] In ASL1, this component was called Policies for Protection and Recovery of Native Vegetation.

funding for ASL1 is $60 million, of which about half is for Component 1. ASL2 has requested a total GEF funding of $19 million.

Overall project targets are to create or improve management of 2,373,628 ha of terrestrial areas, restore 1,200 ha of land, and promote improved landscape practices on 12,233,507 ha of land. The project is also expected to directly mitigate 2.8 MMT CO_2e over 20 years.

Findings

Findings are presented first for the Sustainable Cities IAP and impact program and GGP IAP in Brazil, followed by findings for the FOLUR impact program and Amazon Sustainable Landscapes impact program.

Sustainable Cities

Relevance of Design

Alignment with country priorities. The alignment of the Sustainable Cities child projects with local, national, and international priorities is confirmed. In the two SC-IAP participating cities of Brasilia and Recife activities were aligned with the local governments' existing plans (including the long-term Recife 500 Plan, and the Master Plan for Land Management of Brasilia). The project activities also correspond to climate change principles, goals, and strategies, as set in the Federal District Government (Brasilia) by Climate Law no. 4,797/2013 and Law No. 5,113 / 2013. In Recife, the 500-year anniversary of the foundation of the city was accompanied by a programmatic planning effort, which provided the framework for project activities. At the national scale, the project aimed to support an already established municipal knowledge-sharing entity, the *Programa Cidades Sustentaveis* (PCS) and develop a Sustainable Cities Innovation Observatory. The SC-impact program project ambition of applying the comprehensive sustainable urban planning at the metropolitan scale (through GEF-7) is also aligned with national priorities for urban development; the Brazilian Plan for Urban Development calls for an integrated approach to address environmental sustainability. The design of both Sustainable Cities child projects is also aligned with Brazil's international commitments to the climate change and biodiversity conservation Conventions.

Country incentives and motivation to participate. Project stakeholders state that initiatives such as the Sustainable Cities projects are unlikely to be developed in Brazil without the support from GEF, as they cover several complementary activities and allow innovative approaches and solutions to be tested. These projects straddle programmatic areas which are the responsibility of different sectors, and GEF creates the opportunity for active collaboration.

GEF additionality and innovation. Stakeholders with previous GEF project experience highlighted positive and negative aspects of the integrated approach when compared to single-sector projects. Integrated approach projects may promote more robust results, which are more likely to lead to long-term impacts. However, they involve more institutions from more sectors, therefore requiring more time for project preparation and increasing project management complexity. Such delays discouraged partners beyond the public sector: according

to interviews, PCS almost dropped out but remained involved due to the commitment of one of its staff.

Coherence of Design

Theory of change. Both Sustainable Cities child projects are predicated on the assumption of introducing a new generation of sustainable urban management tools at the local government level. The IT management tools are expected to significantly impact the preparation and implementation of local public policies by providing key data for evidence-based planning. The projects are explicitly designed to encourage replication. The expansion of the PCS platform and a new platform developed by CGEE (the aforementioned observatory) under the SC-IAP are expected to promote similar initiatives throughout the country, including through supporting the creating of sustainable development ambition (through the PCS platform) and the sharing of solutions and good practices (through the observatory). The platforms will also share the results expected from the five participating cities. Similarly, the SC-impact program child project expects to create a national network of living labs which would promote the replication of integrated urban planning at the metropolitan scale. (See also Knowledge Platforms below.)

Monitoring and evaluation. The results framework for the SC-IAP child project coherently follows the stated program objectives, components, and expected outcomes. It includes thirteen indicators for the five expected project outcomes. There are, however, no intermediate targets to be achieved at MTR for twelve of the thirteen indicators (see also Results below). As the SC-impact program is still under preparation, its monitoring and evaluation framework has not been finalized yet.

Environmental governance. Both Sustainable Cities child projects clearly encompass environmental considerations in the sphere of urban planning, by establishing the linkages between built environment and natural resources in the cities and beyond their boundaries. Project activities aimed at remediation of environmental externalities, such as solid waste dumps, and at the protection of forestry and agriculture areas around the sources of water supply for the city clearly establish that link. The extension of the project areas perimeter from municipal (SC-IAP) to metropolitan (SC-impact program) jurisdictions further reinforces the integration of natural resource management and urban planning.

Cross-cutting Issues

Gender. Gender considerations are recognized in the Sustainable Cities child projects. In terms of representation in the project team, the national and municipal project coordinators are or have been women, as well as the leader of the PCS platform. In Recife, a gender standard has been incorporated into bidding processes, in which suppliers must ensure at least 50 percent women among the teams selected for contracted activities. In Brasilia, the land restoration activity at the water capture areas in the surroundings of the city works primarily with women, and the agricultural equipment under development by the project have been adapted to women's needs, as identified through training workshops. At design stage, SC-impact program

intends to reach more female than male project beneficiaries, and to provide gender sensitive training and capacity building to project stakeholders.

Resilience is present in the design of the child projects. The SC-IAP child project planned to help Recife use the results of the Housing Policy and Resilience Strategy to inform the city development plan, but because the municipality has already developed these, the project adjusted its activities to instead elaborate on Sectoral Adaptation Plans. Interviews noted that these plans will be important for risk analysis and long-term planning for Recife. Resilience considerations remain present throughout the implementation of project activities.

Private sector engagement in the Sustainable Cities child projects is aspirational. However, some activities prepare business opportunities in which private sector participation is expected. The Brasilia project is evaluating all risks related to the local closed landfill to assess private sector opportunities such as in energy recovery. Also, the Brasilia project is developing low impact agriculture equipment adapted for local rural producers that, if successful, may be produced by an industry located in the state of Paraná. The Recife project is working on a solar boat that will be used by local population to cross rivers within the city. Currently, the local population relies on long routes by bus. The solar boat is expected to be managed either by a private sector local company or by a non-governmental organization. In the SC-impact program child project, the role of the private sector is not yet clear. The PIF lists a $1.5 million cofinancing from BYD Auto Company, but interviews suggest that this is unlikely since the promotion of electric vehicles may no longer be part of the project.

Program Governance, Knowledge Platforms and Reporting

Internal governance of the Brazil SC-IAP project has been laborious. Guidance and support were slow to emerge from UNEP and MCTI, the key national counterpart, for project partners including the a) Secretariat of Environment of the Federal District (SEMA-DF) and the CGEE for the Brasilia component; b) Agency for Innovation and Strategy (ARIES) for the Recife component; and c) Sustainable Cities Program (PCS) as well as CGEE for the knowledge management component. These two latter entities, one non-profit and the other for-profit, were both contracted for knowledge management activities including national knowledge platforms (see section below). Due to internal UNEP administrative procedures, project contracts are managed directly from Nairobi. To date, MCTI has had three subsequent project coordinators in charge of the SCI-IAP project.

For the first two years project partners were working quite independently from one another. Municipal level partners had little or no experience with the preparation of Terms of References (ToRs), resulting in significant project delays and in the need for additional efforts to train staff. In some cases, it was also necessary to hold meetings with local public comptrollers to explain and approve ToR terms and to hire consultants to provide technical support to the local teams. In November 2019, the new MCTI project coordinator called upon all project partners to revise their activities and schedules, and MCTI increased its project team and communication with partners, which has helped advance implementation. Local partners

appreciated this more frequent communication with MCTI, but also raised concerns that MCTI is intervening too much in the activities of the co-executing partners.

Implementation has also been very much affected by national and local elections. National and state governments experienced significant changes in January 2019. Most focal points at national and state levels were replaced through a lengthy process. Some local governments also experienced changes in January 2021, and this is likely to result in a lengthy process to identify and engage new focal points for both the SC-IAP and the SC-impact program projects. The Sustainable Cities projects differ from other GEF projects as not only national and/or state governments are actively engaged, but municipal governments as well, which requires greater coordination and alignment of orientations.

Efficiency of startup and impacts of COVID-19. The SC-IAP project took approximately two years to reach CEO approval in January 2017, and more than a year to sign all contracts with project participating entities by early 2018. Consequently, SC-IAP project startup has not been efficient. The COVID-19 pandemic has caused major impacts in project implementation during 2020 and is expected to continue causing significant impacts during most of 2021, particularly on field activities. In Recife, some consultants have refused to present proposals fearing COVID-19 exposure. In-person monthly meetings in Brasilia with representatives of all six institutions involved in the project (UNEP, MCTI, CGEE, PCS, SEMA-DF, and ARIES) were discontinued in March 2020 and replaced by virtual bilateral and monthly meetings. Many field actions and activities that depend on public interaction such as workshops, training and public consultations have been either adapted to virtual formats or postponed, requiring adjustment to the schedules. Field actions of Brasilia's pilots regarding training for local farmers and planting had to be put off until the next rainy season. These delays may compromise the period for the monitoring of the pilots after their implementation.

The SC-impact program project is currently being prepared by WRI Brazil for MCTI and UNEP, which have entrusted it with an executing agency role. As preparation is still at an early stage, there are no documents to review beyond the initial PIF, and there were no identified local stakeholders in the participating cities to be interviewed.

Knowledge Platforms

Knowledge platforms. Brazil has engaged in the knowledge platform aspects of the Sustainable Cities program at two levels: participation in the Global Platform for Sustainable Cities (GPSC) activities; and the construction or reinforcement of national-scale knowledge platforms. In interviews, national and local SC-IAP project stakeholders expressed much appreciation for taking part in the GPSC Global Conferences in New Delhi and hosting the event in 2019 in Sao Paulo. In Sao Paulo, six Brazilian cities participated: Brasilia, Recife, Teixeira de Freitas, São Paulo, Palmas, and Sao José de Campos. These events were not only motivational for the Brazil project teams but were also important opportunities for learning and exchange of experiences with other stakeholders involved in the Sustainable Cities program worldwide.

The national knowledge platform component of the SC-IAP is intended to support replication and scale-up of sustainable urban development in Brazil. This component has evolved in practice from design to implementation. At project design stage, the platform was to be an expansion of the existing national PCS platform, managed by a non-profit association, which already had over 200 municipalities engaged, and a large list of sustainability indicators based on Agenda 2030. The component is being implemented via two parallel contracts: one for the expansion of the existing PCS platform, and the other for the creation of a new platform on innovative urban solutions (OICS), assigned to the service provider CGEE. These two platforms have been evolving with little interaction and were launched in late 2019 as two separate websites: the Sustainable City Innovation Observatory (https://oics.cgee.org.br) and the Sustainable Cities Platform (www.cidadessustentaveis.org.br)**.** While there is some integration between the platforms (e.g., in the PCS platform's best practices module, there is a link to innovative solutions presented in the OICS platform), there are also some risks of overlap and of competition. Interviewees reported that some conflicts between the two entities have already occurred, as both have separately reached out to the same external institutions for networking and participation. Interviewees also noted that the idea to merge the public and private knowledge platforms had been raised, but without adequate consideration, including for the issue of proprietary rights by the organizations leading these. MCTI has sought to address the issues of coherence and complementary through workshops in 2020; this is on-going in 2021.

The two on-line platforms are clearly related to the Citinova project, as the SC-IAP is branded in Brazil, and provide useful case studies and best practices to viewers. Interviewees noted that the PCS platform is currently evaluating strategies for financial independence. The OICS platform currently depends fully on GEF funding, but the CGEE Director has indicated that the platform will be sustained after the completion of the GEF project, consistent with other observatories managed by the organization. Potential sources of funding could include CGEE's long-term management contracts with MCTI, event or consultancy revenue, or other international donor projects.

The SC-impact program project is unlikely to continue supporting the PCS platform, which has a strong focus on being a platform run by a civil society organization. Through the SC-impact program project, a focus is on enhancing the CGEE platform developed under the SC-IAP and incorporating it into the Ministry's operations as a federal government tool for supporting the creation of public policy on sustainable urban development. It would also be strengthened to provide more tailored support to municipalities for identifying and prioritizing locally relevant urban solutions and technologies.

Progress Towards Results of the IAP child project

UNEP has submitted two comprehensive and detailed PIRs for the implementation of the SC-IAP child project, the latest with information as of June 2020. By June 2020, three years after project effectiveness, expenditures have only reached 20 percent of the grant. The slow start-up, the national, state, and municipal election cycles, challenges in procurement, and the COVID-19 pandemic have led to a significant delay in project execution that may affect project

results both quantitatively and qualitatively. According to the latest PIR, the single intermediate target (5 percent of urban planning decisions taken in Brasilia on the basis of the Integrated Management System put in place by the project) had not been achieved yet.

In addition to the on-going preparation of the IT tools, activities were on-going in Brasilia on the remediation of contaminated soils at the rubbish dump, and on mechanized agroforestry in drinking water catchments. Activities in Recife were related to community consultations for the preparation of the solar boat project. Interviewees pointed to potential disagreements between project partners and the Ministry about the business model for the solar boat and its sustainability; one option is for the boat to be operated without subsidy by a cooperative of boat operators, another is for the boat to be donated to and run by the existing municipal public transport system.

With regard to the dual cities platforms, support is on-going to the PCS for the extension of its coverage to more cities. Although the number of cities has not grown substantially, given that according to the latest progress report PCS membership has risen only to 214, new signatories now include the largest cities in the country (including São Paulo, Recife, Rio de Janeiro, Belém, São Luís, and Boa Vista. CGEE has delivered a platform that describes 578 sustainability measures and case studies (national and international). Both platforms have sought to work with two important local government associations—CNM (National Confederation of Municipalities) and ABM (Brazilian Association of Municipalities)—to share these sustainable city innovations.

All activities at the municipal level have been implemented with the aim of being incorporated by the municipal governments. This includes IT management tools currently under implementation, training municipal government staff on project management skills and climate change mitigation and adaptation plans to guide municipal planning. The project has improved the knowledge platform of PCS, an institution that has promoted sustainable city public policies in Brazil for the last ten years; it has built the capacity of ARIES, an institution recently created to promote long-term sustainable urban planning for Recife; and, finally, it has supported the creation of a new knowledge platform on sustainable cities solutions by CGEE, an institution that has several management contracts with MCTI and other public institutions. PCS, ARIES and CGEE contribute to the dissemination of knowledge produced by the project, increasing the likelihood of long-term and national-level project impacts.

GGP IAP

Relevance of Design

Alignment with country policies and priorities and other donor initiatives. The Brazil Production project as designed aligned with national policies, programs, and plans. It contributes to Brazil's National Biodiversity Strategy and Action Plans and is consistent with the national climate change policy (law 12.187 of 29 December 2009) and the National Climate Change Plan (1 December 2008), including objectives related to reduction of deforestation rates in all biomes and the elimination of net loss of forest cover. The project also aligns with

other initiatives, including the Sustainable Cerrado Initiative, which is supported by GEF and the World Bank,[7] and the Prevention and Control of Deforestation and Forest Fires in the Cerrado (PPCerrado) project. The Brazil Production project is further linked to implementation of the new Forest Code (approved in 2012), by supporting its rural environmental registry (CAR) to register 17,000 additional properties to prevent illegal deforestation of native forest into the future.

The Brazil Production project was explicitly requested by the Government of Brazil, following Council approval of the Program Framework Document (PFD). Interviewees shared that initially the Brazilian government was concerned that the GGP IAP could be a trade barrier with limitations to soy production; a stand-alone project aligned with the interests of the federal government helped dissuade this concern. The project promotes a government program for sustainable soy production (ABC Soja Sustentável) in a new agricultural frontier in the MATOPIBA region. ABC Soja is a low-carbon agriculture program designed by Embrapa in partnership with CONSERVATION INTERNATIONALBrasil in 2019 under the GGP umbrella and is also captured as cofinance to the GGP project.

Multiple interviewees and project reporting indicated, however, that since the federal elections in 2019, the political context has presented a challenge for the buy-in of the project at the federal level. Project reporting suggests that the new administration has empowered the productive sector to resist international pressures on sustainability goals and deforestation-free targets. Legislative negotiation to make the Forest Code more flexible and postponement of the deadline for farmers to comply with the Code has also created uncertainty and relevance challenges for a project linked to implementation of this Code. (See also Progress Toward Results section below.)

In terms of alignment with other donor initiatives, the delays in the GGP project award meant that another initiative—the Collaboration for Forests and Agriculture (CFA), a joint effort of the National Wildlife Federation, The Nature Conservancy (TNC), WWF, and the Gordon and Betty Moore Foundation—started in Brazil with similar objectives to the Demand Project. Interviews and project reporting indicate that while this required an adjustment period to ensure complementarity rather than duplication, the adaptive management by Proforest to design a Soy Toolkit (rather than the initially envisioned Soy Traders Platform) was an effective one. (See also Progress Toward Results section below.)

Relevance of targeting. Interviewees and documentation indicate that a focus on soybeans in Brazil is highly relevant, as the country produces about a third of the global supply, generating

[7] The Sustainable Cerrado Initiative's objective is to "promote the conservation of the biome's biodiversity and improve the management of its environmental resources, through: (i) the creation of 2 million hectares in conservation areas; (ii) support for the sustainable use of its natural resources through training of farmers and the implementation of 12 initiatives based on traditional knowledge; (iii) institutional strengthening and the formulation of new policies."

more national income than any other commodity, at the same time that production threatens some of the most diverse ecoregions in the world. The MATOPIBA region in the Cerrado has experienced a new agricultural frontier over the last decade, which threatens the remaining native vegetation. The region has also experienced a rapid expansion of soy production in recent years because the Cerrado has relatively little legal protection, and because multilateral deforestation agreements such as the Soy Moratorium have displaced soy plantations from the Amazon into the MATOPIBA.[8]

Additionality, comparative advantage, and innovation. Interviewees pointed to the institutional support from GEF as a key comparative advantage for opening doors with governments as well as large private sector corporations. The Demand Project has also offered innovations that benefit several of the participating countries, including Brazil. The Trase Platform, supported in part from GEF funding under the Demand Project, has been extremely innovative in tracing flows of exports from the district of production up to the country of import, and is seen as a market "disruptor."

Coherence of Design

Theory of Change. The theory of change for the Demand Project is that "increased demand for sustainable commodities will promote increased sustainable production that helps conserve forests, biodiversity and ecosystems especially in Brazil for soy, Indonesia for palm oil, Paraguay for beef and West Africa for palm oil." The MTR found, however, that the project's envisioned results chain does not fully apply for soy, given the "invisible" nature of soy as an ingredient for consumers. As such demand will likely be a less prominent driver of sustainable actions. The MTR acknowledges that engagement with key corporate actors in the supply chain, which control the majority of commodities production, is important, but also emphasized the importance of financial incentives and government buy-in to promote systems change for soy.

The Brazil Production Project's theory of change followed from the overall GGP program theory, that a supply chain approach can address the root causes of deforestation from soy. In Brazil, this theory strongly relied on compliance with the Brazilian Forest Code. The MTR concluded that this theory overlooked the sensitive dynamics of producers and governments, that market drivers "should have been better observed," and institutional weaknesses to manage the Forest Code were not considered sufficiently. In other words, the theory of change and assumptions missed or under-considered important political, social, and institutional drivers of change. The project gave some consideration to leakage effects associated with the concentrated efforts in 10 municipalities to register properties, and the potential displacement of deforestation in other areas of the MATOPIBA, by working with state agencies—although the MTR found this approach inadequate.

[8] Dou, Y., da Silva, R.F.B., Yang, H. et al. Spillover effect offsets the conservation effort in the Amazon. J. Geogr. Sci. 28, 1715–1732 (2018).

The findings from the MTRs are consistent with the perceptions of multiple interviewees, who shared the view that while the supply chain approach was sound and innovative, the demand and supply sides have not been sufficiently coordinated in implementation to date (see also the section on Program Governance). The GGP IAP's global hub project MTR also found that "there is insufficient buy-in and incentive for integration of Demand, Production and Transaction in Brazil and Paraguay, although there is some move in the right direction." One interviewee explained that while the overall program theory of change made sense at a global level, it needed to be better unpacked and tailored to the country level. In Brazil, project partners held a soy systems workshop following the release of the findings of the MTR (May 2020), in the words of one interviewee "to re-open and better understand the key levers of change that make sense nowadays in the current context, and to try to align the work of partners around that."

Opportunities to benefit from integration may be starting to emerge, however (see also the section on Results). In the words of one interview partner:

> "The issues on the ground do not enable that kind of truly integrated approach and implementation in the time that we have [...] In Brazil, only now 3 years in are we starting to see these opportunities for true integration of our approaches. I don't know if it's an issue with the design to say artificially we have these four years, but in reality, it just doesn't work this way especially when you have so many partners and changes politically in a country that hold up implementation or [require you to] change course. I feel that there is sometimes gross underestimation of what really needs to happen to catalyze […] true integration of activities."

Given the growing momentum for integration, several interviewees expressed the view that it was unfortunate that the FOLUR impact program project did not explicitly build on the efforts and lessons learned from the GGP project, as also addressed further below.

A further complicating factor for taking a supply chain integrated approach in Brazil was that the Demand and Brazil Production Projects had different environmental aims, as raised by interviewees and project reporting. The Demand Project focused on defending zero deforestation in the Cerrado, while the Brazil Production Project addresses illegal deforestation. The Demand Project MTR found that "Both projects have worked more in parallel rather than in integrated manner since the MATOPIBA project could not engage with producers if speaking of deforestation free, while the Cerrado aims to achieve this goal."

Monitoring and Evaluation. Project-level monitoring and evaluation (M&E) has been reasonably effective. The Brazil Production Project includes a detailed M&E plan and budget and, according to the 2020 MTR, and has been "adequately executed." The MTR further found that, "The project has produced its own monitoring system, which shows a high standard for the database and analytical tools." However, the MTR also states that the results framework was hindered by "unrealistic and unfeasible indicators and targets." The Demand Project's M&E system has been designed to demonstrate impact to the GEF Program's core indicators and was found to be satisfactory at MTR.

Interviewees pointed to the challenges of monitoring systemic change, which is still considered a work-in-progress in the GGP IAP. Concerns were also raised that measuring long-term environmental impacts has been difficult.

Cross-cutting Issues

Gender. Both the Brazil Production and Demand projects included gender considerations in the initial project design; however, implementation has been mixed across child projects. The Brazil Production Project completed a gender assessment in the first year of implementation and organized activities such as field visits, meetings, and workshops with attention to diversity in female participation from the productive sector and technical research. However, interviewees and documentation confirmed that gender responsiveness and inclusiveness has since been challenging to deliver on, given changes in the Brazilian political scenario, which have contributed to a "hostile" environment for these actions. Efforts to strengthen engagement through the Women Agribusiness Leadership initiative, for example, were interrupted by the departure of a key project partner, SRB (discussed in the section on Private Sector below). The MTR found that that the recommended actions in the gender assessment and the corresponding monitoring were still a "pending task."

Since then, a gender-focused plan has been developed by CI, informed by the GGP knowledge production gender mainstreaming in global agricultural supply chains. This plan includes elements such as: engaging women's organizations that work in agricultural production primarily in the states of MATOPIBA, as well as in other regions of the Cerrado; elaborating a consolidated vision on sustainability from the perspective of women working in the soy supply chain – producers, community members, executives (based on a qualitative and quantitative survey in Tocantins and Bahia); disseminating results and booklets in different communication channels and promoting exchange of knowledge in workshops and events; and promoting technical training for rural producers in MATOPIBA with the development of modules on selected topics according to the demands and bottlenecks raised in the survey.

The Demand Project includes a gender strategy, which provided practical ways to integrate gender issues. Gender disaggregated M&E data is being collected and in 2018 Demand Project partners agreed to a series of actions to incorporate gender into work plans.

Resilience. Resilience was given limited treatment in the Brazil Production and Demand projects. At design, the Brazil Production Project emphasized resilience to climate change impacts, referencing "resilience of the productive landscape against climate changes" in its theory of change and in multiple project outputs. But interviewees felt that this concept was not at the core of their work.

Private Sector. The Brazil Production Project expected considerable private sector involvement but faced issues securing that engagement and addressing the competing interests of farmers and producers' associations that drive environmental degradation. These issues required substantial changes to the project approach. Interviewees' perception is that private sector actors are involved to some extent in the project but not sufficiently; this outcome is partially

associated with external factors outside the influence of the project, as described below. One interviewee stated that actual cofinancing expected from private sources is nearly zero; at CEO Endorsement, the expected cofinance from farmer investments/beneficiaries was $10 million.

From the outset (the Project Inception Workshop), private sector and farmers' associations expressed concern about one of the objectives of the project to preserve 40% of native vegetation, which was viewed as unduly financial burdensome to farmers, who might have to voluntarily forego converting more than half[9] of their properties for productive purposes. The MTR concluded that the project would have benefitted from more effective consultation with these actors during design. These initial concerns, combined with the changing political context, has generated reluctance of the productive sector towards legal compliance with the Forest Code—which was at the heart of the Brazil Production Project's design. Anticipating more favorable modifications to the Code, farmers' associations were reluctant to sign agreements with CI. Large producers' associations also left the project. Sociedade Rural Brasileira (SRB), an implementing partner and the primary intermediary with producers, along with the Associação de Agricultores e Irrigantes da Bahía (AIBA), decided to leave the project in 2019.[10] These departures are seen by interviewees as strongly influenced by the national political context and the tension between environmental and productive sector agendas.

Due to these challenges, the team shifted its approach towards one more focused on strengthening relationships with the Ministry of Agriculture, Livestock and Supply (MAPA) and with the state agricultural and environmental secretaries. In addition, the project established a new partnership with the EMBRAPA (Empresa Brasileira de Pesquisa Agropecuária, or in English the Brazilian Agricultural Research Corporation) in 2019 to serve as intermediary with individual producers who are beneficiaries of training on sustainable soy production. The MTR concluded that this has been an effective partnership: "The collaboration with EMBRAPA to support the ABC loans to farmers, directed at low-carbon, high productivity, and better water management practices, has been of great significance. EMBRAPA's integrated approach through the ABC Beef, ABC Milk, and the crop-livestock-forest integration (ILPF) needs to be highlighted as they all contribute to reducing deforestation in MATOPIBA."

Private sector actors, including traders and financial institutions, have also continued to be involved through the Brazil Production Project's support for the MATOPIBA Coalition, in terms of identifying synergies and common agendas to promote a more sustainable production model based on an integrated approach to the soy supply chain.

---

[9] Under the Forest Code, farmers in Bahía and Piauí must set aside 20 percent of their properties in a legal reserve, and up to 35 percent to 80 percent (in the legal Amazon) in the states of Maranhão and Tocantins.

[10] These associations withdrew from other environment-agriculture initiatives in Brazil that brought together environmental NGOs, rural producers, and agriculture businesses (e.g., Coalizão Brasil Clima, Florestas, e Agricultura; Grupo de Trabalho do Cerrado—GTC).

The Demand Project has been substantially focused on engagement with the local and international private sector to support sustainable soy in the Cerrado region. The project has made excellent progress in terms of corporate engagement with buyers and traders. The agreement signed by 64 global buyers as Signatories of Support for the Cerrado Manifesto in February 2019 is a major milestone for protection of the Cerrado biome, and one that the project has contributed to according to interviewees and project reporting. Interviewees explained that this initiative is perceived by signatory companies as one that truly seeks real positive impacts on the ground, rather than promoting mere declarations of intent. With contribution from WWF's involvement in the Cerrado Working Group (or GTC[11]), a further agreement has been reached between the GTC and the Cerrado Manifesto signatories that would serve to eliminate the conversion of native Cerrado vegetation for soy production. This accomplishment illustrates the effectiveness of the corporate engagement approach through platforms and pressure on traders, as orchestrated through non-public letters signed by 160 buyers and 43 investors (responsible for $7 trillion), making clear the risk of divestment if traders do not take action in relation to the deforestation associated with products they market. The success of the agreement, however, depends on finding donors to fund the financial mechanism for compensating producers to conserve biodiversity above the legal requirements—a process being led by CFA.

The Soy Toolkit is another significant accomplishment of the project, aimed at increasing the capacity of key buyers and traders of Brazilian soy. The Soy Toolkit contributed toward prompting some large companies to revise their sourcing policies and helped Proforest engage with the Soft Commodities Forum (supported by CFA). Members of the Soft Commodities Forum—a global platform of leading commodity companies including Cargill, Bunge, Louis Dreyfus Company (LDC), Archer Daniels Midland (ADM), Glencore Agriculture, and COFCO International, a Chinese firm—have agreed to monitor and publish data concerning trading company soy supply chains from 25 Cerrado municipalities facing the highest risk of conversion of native vegetation to soy. With International Finance Corporation (IFC) support under the Demand Project, progress has been made in better understanding the Chinese market for Brazilian soy, but interviewees noted that it has been challenging to connect this to the production side—to bring farmers with whom Conservation International Brasil is working through the Brazil Production Project into the COFCO supply chain.

Environmental Governance. The Brazil Production Project addresses stakeholder engagement in environmental governance specifically through support for Coalition MATOPIBA, a multistakeholder forum previously created by Conservation International under another initiative, that facilitates dialogue between government, academic, farmers, civil society, and private sector. Under this Project, the discussions have brought together representatives of farmers' organizations, traders, and financial institutions to coordinate actions under a shared

[11] The GTC includes large soybean trading companies (representing 80% of the Brazilian soy market), producers' organizations, Brazilian consumer goods companies, civil society organizations, financial institutions, and government representatives.

vision of sustainable production in the region. These discussions have also considered policy proposals.

The Brazil Production Project has also made efforts to recommend improvements in policies. The project has advanced the draft state-level regulation in Tocantins that would enable implementation of the Environmental Regularization Program (PRA), under the Forest Code.

Program Governance

Internal Governance. Governance of both projects has been challenging in terms of coordination and communication with numerous stakeholders, partners, and GEF Agencies, according to interviews and project reports. The Brazil Production Project is implemented by UNDP, with full management responsibility for the entire project with CI. IFC and WWF are also responsible for execution of Component 4 of the project, on Supply Chain Integration, but are funded and monitored under their respective GGP IAP child projects. This served to be a complex arrangement with output dependencies and high transaction costs for Conservation International to coordinate among implementing partners—including those contracted separately from the Brazil Production Project, as raised in interviews, project PIRs, and the MTR. The MTR noted that "Conservation International identified in both PIR 2018 and 2019 that it was a challenge to manage the high transaction costs which involved coordinating efforts among the implementing partners toward a common approach based on the GGP's integrated perspective."

Similarly, interviewees pointed to challenges in coordinating diverse project partners under the Demand Project; and the MTR found that "the number of sub grantees provided complexity to the project and did not facilitate the integration of the work of all sub grantees."

Interviewees pointed to a lack of partner interaction, including within and across the Brazil Production Project and global projects (such as the Demand and Adaptive Management and Learning Projects), which meant, in the words of one interviewee, that the Projects "lost many interesting opportunities." When partners did collaborate, this supported results achievement: for example, in the case of Proforest and Trase (who had institutionally collaborated prior to the GEF project), where Trase's participation helped enable the engagement of companies with Proforest on the Soy Toolkit.

Coordination among project partners and GGP child projects is improving, however, according to interviewees and project reporting. One interviewee noted that "only in 2019 there was a clear alignment between all project partners." Quarterly meetings are now organized by Conservation International and held with UNDP Brazil, WWF, IFC, and UNEP-FI to coordinate actions under their child projects.

COVID-19. The severity of the COVID-19 crisis in Brazil has been a major challenge for GGP projects. For the Brazil Production Project, the 2020 PIR expected that "The Covid 19 outbreak could affect project activities and stakeholders' engagement in MATOPIBA, since the economic and political scenario will impact negatively local government budgets and, consequently, influence municipal elections in October 2020." Despite mitigation measures, shifts in priorities

and capacities in terms of the actions may be necessary. The 2020 Demand Project PIR reported that "The most significant challenge affecting all of the Demand Project partners across the globe is the coronavirus pandemic, which has shuttered offices, prevented travel, canceled meetings, trainings, and events, upended commodity markets, and created a significant sense of uncertainty at a pivotal moment for the project when all of the work had hit its stride. Many organizations are still exploring on a case-by-case basis whether to postpone events indefinitely or try to hold them virtually."

Knowledge Platforms

Interviewees agreed that the Brazil Production Project has been somewhat disconnected from the global coordination project. Little GEF funding was available for participation, and thus most participation (such as by Conservation International Brasil) was made possible through other sources of funding. Interviewees and project reporting both highlighted that bringing the project's new government partners (the MATOPIBA state secretaries of agriculture) to the global Green Growth Conference in Peru was crucial for project revival and achievement of results. Interviewees also suggested that GGP events could play a stronger role in integrating the different projects under the program.

Progress Towards Results of the IAP child projects

The Demand Project has had strong outcomes in soy through the Soy Toolkit and Cerrado Manifesto, which may have a significant impact on the global market and even a "transformative shift", according to the MTR.

The Soy Toolkit (https://www.soytoolkit.net/welcome) is a platform "to support companies in the responsible sourcing of soy [...] to decouple soy production and trading from deforestation, conversion of native vegetation and human rights violations." The Toolkit has supported companies' capacity building for responsible sourcing, further strengthened by many of the same companies engaging with the Transparent Supply Chains for sustainable economies (Trase) platform,[12] also supported through the Demand Project. Cargill and Amaggi,[13] two major soy traders in Brazil, used the Soy Toolkit to update their corporate environmental policies. As mentioned above, the Soy Toolkit also influenced WBCSD's Soft Commodities Forum, which could contribute to long-term positive impacts.

[12] The Trase platform traces flows of exports from the district of production up to the country of import, making transparent the main companies involved along the supply chain.

[13] According to interviews, Amaggi, which is a soy producer and trader, previously had an environmental policy that was focused on production only and now covers trading activities as well, increasing the requirements imposed to other soy producers.

WWF's involvement in the GTC has also contributed to an agreement reached in 2019 to stop conversion of native Cerrado vegetation for soy production among 64 global buyers, who became signatories for the Cerrado Manifesto. This success is seen as a major milestone to protect the Cerrado biome and evidence of the effectiveness of collective corporate engagement through platforms. However, to be successful, the Cerrado Manifesto requires major funding for its Financial Mechanism, which will provide direct payments to farmers who protect vegetation beyond the requirements of the Forest Code. The main responsibility for this fundraising lies outside the bounds of the Demand Project; CFA will present the financial mechanism to major companies and donors. In terms of GEBs, the MTR warns that some project results may be threatened if the Cerrado Manifesto does not find funding for its compensation mechanism.

The Brazil Production Project was slow to get started and has faced major changes in the political context and partnerships, as described above, which has affected results achieved to date. Interviews and project documents indicate that the project team has exercised strong adaptive management in the face of these changes. Still, progress toward results is not on track for this child project as of the completion of the MTR (May 2020). The MTR raised "serious concerns as to the achievement of the targeted decrease of the deforestation rate by 1000 km^2," which was designed to contribute to GEF GEBs.

Some significant outcomes achieved by the child project to date are institutional: the project contributed to the creation of a Consortium of Secretaries of Agriculture in the MATOPIBA interested in promoting sustainable soy production, to support joint planning in the region, and regional governments have publicly expressed support for sustainable soy production. The project has also strengthened the Tocantins and Bahia's Regional Environment Registry (CAR) validation processes. The project's partnership with Embrapa has extended the ABC Soja program to rural properties in the region, and interviewees noted that positive results from participating properties (up to 40% increase in productivity alongside conservation of vegetation and soil and water protection) are expected to induce other properties to join the program. Currently, there is a long queue of producers waiting for Embrapa's support in the region. The President of Embrapa-Tocantins has also been on local TV to talk about sustainable soy production.

The establishment of a biodiversity corridor was an expected output of the project and viewed by interviewees as fundamental for the conservation of the Cerrado biome. The project has municipal land use plans to identify priority regions for the creation of ecological corridors or protected areas. However, interviewees stated that such a corridor is unlikely to be established under the current political context and the position of the producers' associations. Instead, Conservation International Brasil has been working with municipal governments that now intend to create municipal protected areas and promote private reserves (RPPNs). In Tocantins, there is also a financial incentive for municipalities to create reserves in its territory (ICMS Ecológico).

As discussed above, a trend of improvement is noted in terms of coordination among project Agencies and partners, including across GGP child projects. One of these joint outcomes (UNEP-

FI/CI) is the development of online training modules for financial institutions that provide rural credit to producers, which incorporates Embrapa's expertise and lessons learned. Another example is that Conservation International is working with IFC on the business case for sustainable production and connecting COFCO with responsible Brazilian producers.

Food Systems, Land Use and Restoration Impact (FOLUR) Program

Relevance and Coherence of Design

Alignment with country policies and priorities and other donor initiatives. At the PIF stage, the FOLUR proposed child project is well aligned with existing national policies in Brazil. Brazil has an established policy framework to support sustainable agriculture and protections against deforestation, including the: National Policy of Water Resources (Law No. 9,433/1997), National Policy on Climate Change (Law 12.187/2009); Sector Plan for a Low Carbon Economy in Agriculture – ABC Plan (Decree No.9,578/2018), National Plan for the Promotion for Socio-Biodiversity Value Chains (Resolution No. 239/2009), and the Forest Code (Law No. 12,651/2012).

The FOLUR child project is also consistent with other donor programs in the Cerrado, including those managed by the World Bank. A significant effort is through the national investment plan that Brazil developed in collaboration with the Forest Investment Program (Fimpact program), a funding window of the Climate Investment Funds, a multidonor dedicated climate fund implemented by multilateral development banks. Brazil's Fimpact program investment plan seeks to "improve sustainable land use and forest management in the Cerrado to contribute toward reducing pressure on the remaining forests, reducing GHG emissions, and increasing carbon dioxide (CO_2) sequestration" and includes existing projects managed by the World Bank,[14] which the FOLUR impact program can build on. The Fimpact program investment plan is a coordinated action plan between the Ministries of Environment, Science, Technology & Innovation, and Agriculture and Livestock and Food Supply. The investment plan includes two themes, including "Investments outside the forest sector necessary to reduce the pressure on forests; and Institutional capacity, forest management and information." It also focuses on forest mitigation actions, including the recovery of Legal Reserves (RLs) and Permanent Preservation Areas (APPs).

The child project identifies a significant opportunity to build on existing efforts, although not specifically the GGP child project. The PIF states that "The added value of the project is to build the synergy of the already installed actors, policies and initiatives to achieve proposed goals rural credit system." Moreover, it states that "financing will build on and complement the

[14] These include the Environmental Regularization (P143334), Sustainable Agriculture Production (P143184), Forest Fire Prevention Systems and Monitoring of Vegetation Cover in the Brazilian Cerrado (P143185), Integrated Landscape Management in the Cerrado (P164602), Forest Information Oriented Management for Conservation and Use of Forest Resources of the Cerrado by Public and Private Sectors - IFN Project.

ongoing investments in sustainability being made by government and private sector at the national and landscape level…." and "it will specifically support the incremental costs of interventions aimed at achieving a large-scale, transformational shift and GEBs."

Relevance of targeting and coherence with GGP IAP project. According to the PIF, "the expansion of agriculture production has reshaped the Cerrado landscapes with environmental costs, including significant loss of native vegetation and environmental and land degradation. On those anthropized areas, the prolonged use of grasslands for conventional beef cattle production diminishes the soil productivity capacity for agriculture and vegetation regeneration". Furthermore, key challenges for Brazil include increasing food production, restoring degraded land, and conserving natural characteristics in the region.

The FOLUR child project focuses on the livestock and the soy production chains. While soy production was a key focus of the GGP child projects in Brazil, it is expected that the FOLUR project will receive greater support from the livestock production chain for the implementation of several low carbon measures, including mainly recovery of pastureland and implementation of agro-silvi-pastoral systems. Interviewees also indicated that Brazil's federal government had decided to work with consolidated productive areas and not in areas of expansion of the agricultural frontier such as MATOPIBA, where the GGP IAP project had focused its engagement. This was due in part to the fact that part of the STAR resources made available for the project came from Land Degradation focal area, for which the MATOPIBA region would not be eligible.

Multiple interviewees stated that there have been limited linkages with the GGP IAP child projects during the FOLUR child project development, including little interaction among the institutions involved in these projects. One interviewee expressed the view that it is likely that little of what was produced under GEF-6 will feed into GEF-7. Interviewees noted that the FOLUR impact program child project should be considered as a continuation of the partnership between the World Bank, Ministry of the Environment (MMA) and Ministry of Agriculture (MAPA), which was already under development through the Fimpact program.

Coherence. The child project addresses the objectives of and includes GEF core indicators related to the United Nations Framework Convention on Climate Change (UNFCCC), United Nations Convention to Combat Desertification (UNCCD), and Convention on Biological Diversity (CBD). The child project is also consistent with the FOLUR integrated Theory of Change for sustainable food systems and landscape restoration. The PIF states that "The project will apply an SLM approach in the areas presented in item 2.1 to maximize the impact program objectives." Additionally, project components are consistent with FOLUR impact program components. The child project components include: 1) Development of Sustainable Landscape Management (SLM) approach; 2) Promotion of sustainable food production practices and responsible value chains; 3) Conservation and restoration of natural habitats and mainstreaming biodiversity; and 4) Project Management and Knowledge Management.

Monitoring and Evaluation. At the PIF stage, limited information is available about the child project M&E system. The PIF identifies core project indicator targets, which will contribute to

FOLUR impact program targets. The project states that Component 4 "will focus on coordination, cooperation, and monitoring and evaluation (M&E), including knowledge generation and dissemination nationally and internationally."

Additionality, Transformational Change, and Innovation. Limited information is available at the PIF stage. The child project states that "It will specifically support the incremental costs of interventions aimed at achieving a large-scale, transformational shift and GEBs" by enhancing existing institutional coordination and support the coordinated application of both the sustainable agriculture (ABC Plan) and environmental (Forest Code) policies. By supporting sustainable development in rural areas, the project aims to reverse existing trends in the Cerrado biome. One interviewee, when speaking about the FOLUR and Sustainable Landscapes Amazon impact program, however, noted that GEF funding is always welcome but cannot generate major impacts due to Brazil's size, and is better positioned to support the development of "good examples."

The child project PIF states that it will scale-up innovation, building on-farm interventions applied in the Sustainable Agriculture Production and Integrated Landscape Management in the Cerrado projects. Innovations to be supported include the provision of sustainable Low Carbon Economy in Agriculture (ABC) practices; forest protection and restoration practices; and associated with technical assistance to access credit for adoption of those practices. The project also intends to work with public and private sector stakeholders to facilitate the adoption of institutional frameworks to support the adoption of its approach at other locations. Specifically, the project states that it "has the potential to be implemented in other areas, as it will make use of existing local structures to identify regional resource-gaps and address these issues through participatory methodologies which will lead to custom local solutions."

Environmental Governance. At the PIF stage, the FOLUR child project expects to advance environmental governance through robust stakeholder engagement. The child project emphasizes that it will engage a breadth of key stakeholders, including farmers and their representative organizations, state and municipal governments, local financial and technical assistance agencies, non-governmental organizations (NGOs), buyers and investors, to address the systematic challenges associated with environmental degradation and productivity losses. According to interviewees, the federal government has rejected the direct involvement of environmental NGOs in the project but recognizes the importance of seeking synergies with ongoing initiatives that Conservation International Brasil, TNC, WWF and other NGOs may have in the locations in which the project will be implemented.

Cross-cutting Issues

The cross-cutting issues of **Gender** and **Resilience** are only discussed in limited detail at the PIF stage. The project notes that it will incorporate lessons learned from the previous World Bank-implemented Sustainable Agriculture Production Project – Projeto ABC Cerrado as it relates to women's participation in capacity building activities and that it will conduct a gender assessment and design a gender strategy to support equitable participation. Resilience is only

briefly referred to as it relates to indirect project benefits associated with improved employment and food security.

Private Sector. The child project places a strong emphasis on the role of the private sector to support project objectives and transformational change. The PIF states that "Supported by leading Government agencies, the engagement with the private sector will play a key role in implementing and consolidating a socio-environmental business model conducive to environmental traceability and mainstream sustainable efforts made by farmers in their production systems, such as applying standards enabling them to meet the EMBRAPA's meat carbon neutral protocol."

The project does not commit to delivering certified production but promotes the adoption of traceability and certification practices and will engage with "agroindustry, traders and exporters (on mainstreaming sustainable practices along the value-chain and improve traceability and security throughout the value-chain)." The project already has partnerships with Embrapa (4 units) and Brazil's National Institute for Space Research (landscape monitoring) and other partners may also be included, such as the IFC. There are certification processes under evaluation by Embrapa in partnership with TNC and the company Marfrig that the project may use as a reference. The project will also develop a forum for local buyers, slaughterhouses, and traders to "understand the demand side and market needs, risks and harness their commitment to promote productive alliances with local farmers." The private sector is also expected to play an important role in scaling up the project's approach through food supply chain initiatives and networks.

Program Governance

In the proposed project document, SENAR (the rural extension branch of the National Agriculture Confederation - CNA) would be the Executing Agency. Interviewees noted that SENAR is viewed as highly qualified institution with a presence in all states and close proximity to rural producers. Additionally, SENAR has already worked with the World Bank on other projects and has incorporated many of the good environmental practices promoted through these projects. One interviewee noted that the project has been prepared in a collaborative way between MMA and MAPA, and it is expected that this close collaboration between environmental and agricultural governmental institutions will continue during implementation.

Knowledge Platform

Knowledge Platform. At the PIF stage, the project indicates an intention to engage with other countries and platforms through the FOLUR global platform and the UNDP Commodities Program, the Good Growth Partnership and with other FOLUR child projects. Resources will be shared to support the development of "collective knowledge management products". Project experiences may also be shared through Rio Convention forums, the World Forest Forum, and the World Soil Alliance.

Amazon Sustainable Landscapes impact program

Relevance of Design

National Alignment. The project document demonstrates alignment with national policies and programs, including building on previous initiatives. These include the Legal Amazon Deforestation Prevention and Control Plan (PPCDAM, 2005), the Terra Legal Program, and the Rural Cadaster, which provide opportunities to integrate sustainable activities in the Amazon. As of the writing of the PFD, Brazil had expanded protections for the Brazilian Amazon through the Amazon Protected Areas program (Programa Áreas Protegidas da Amazônia – ARPA) and established a Transition Fund with an estimated value of around $215 million. GEF also has a long history of support for biodiversity conservation in the Brazilian Amazon.[15]

ASL II is an extension of the national project, Amazon Sustainable Landscapes Project – ASL I (GEF Project ID 9664), which was approved for implementation in August 2017. ASL I, in turn, incorporated the Amazon Region Protected Areas Program - ARPA (GEF Project ID 771), a program that started in 2000. ASL I's components 2, 3, and 4 have expanded GEF actions into promoting sustainable initiatives not only in protected areas, but also in non-protected areas.

Since the federal elections in 2019, interviewees noted that the political context has presented a challenge for the preparation of the additional finance and the implementation of the parent project.

Additionality and environmental governance. According to submitted CEO endorsement documents, the ASL II Brazil project will build on existing activities to bring additionality in several areas. The project will contribute to institutional additionality through strengthening governance structures and management instruments for five Integrated Management Areas (IMAs) in Amazonas state covering an area of 26.2 million ha, to include the Central Amazon Biosphere Reserve; Lower Rio Negro Mosaic and Central Amazon Heritage Site and the Ramsar Sites of Rio Negro and Juruá. Environmental governance will be supported through participatory governance and management of these IMAs, including strengthening the participation of indigenous peoples and local communities in the management of these large areas.

Expected contributions to legal/regulatory additionality relate to strengthening the implementation of Brazilian public policies (e.g., National Plan for the Control of Illegal Deforestation and Recovery of Native Vegetation 2020-2023, LPVN; law for the management of public forests and National Policy for Recovery of Native Vegetation, or Proveg). The project

[15] FUNBIO, currently a GEF Implementing Agency, was a result of GEF-1. PROBIO, the National Biodiversity Program that led to the creation of the Secretariat for Biodiversity and Forests of the Ministry of Environment and structured all investment in biodiversity in Brazil was another result of GEF-1. GEF projects helped the government to structure the entire scientific and public policy base to define priority areas for biodiversity conservation in all Brazilian biomes, including marine areas. This led to the structuring of larger projects like ARPA, which started in year 2000 and continues today as the component 1 of ASL I.

also contributes to financial additionality via expanding efforts to mobilize public and private financial resources to support integrated approaches to landscape management, including Payment for Environmental Services (PES). GEBs will be delivered through expanding the hectares under restoration—through more rural property areas supported by the project adopting sustainable management practices and more incentive mechanisms to reduce deforestation and increase recovery.

Coherence of Design

Coherence. The ASL2 Brazil project is consistent with the parent project (ASL1) theory of change. The CEO endorsement document states that the project "aims to build upon and scale up ongoing project efforts to further consolidate protected areas in the Amazon and strengthen connectivity at the landscape level, including an expanded focus on forest and aquatic ecosystems." The ASL2 Brazil project is also built on the successful GEF-funded ARPA projects. ASL1 and ASL2 in Brazil are treated by the World Bank and the MMA as a single project with four components. All components will receive additional support under ASL2, although in ASL2, Component 1 of ASL1 becomes sub-component 1.1 and another sub-component, 1.2 is introduced to reflect the new approach that ASL2 will take for activities under Component 1.

Cross-cutting Issues

Gender. The project includes targeted, gender-sensitive activities. These include awareness raising, leadership training for young men and women, and increasing focus on productive chains favored by women. By strengthening extension services and actively promoting dialogue among different actors in productive chains, the project expects to enhance individual capacities of women and contribute to building lasting local social capital.

Resilience. Integrating landscape management to contribute to climate resilience and enhance sustainable land use is a key component of the ASL impact program's Theory of Change, which will be supported under ASL II. The project paper states that the project will increase "resilience to climate variability of those who depend on the forest resources, which are among the poorest and most vulnerable." The project also considers resilience in the context of COVID-19, providing response opportunities through job creation, local economic development, and productivity improvements in the short term, which are expected to help increase natural and economic resilience.

Private Sector. The child project envisions a substantial role for private sector actors. This includes support to farmers and community associations along the productive chain, from production to market, with a view to fostering emergence of sustainable forest- and freshwater-friendly value chains (e.g., native biodiversity products, ecotourism), and support for restoration of degraded areas and native vegetation through private financing. Public-private sector partnerships will develop new technologies and tools to improve planning for connectivity (e.g., multicriteria spatial planning tools), helping guide native vegetation restoration efforts by the private sector and communities, reducing fragmentation. In addition,

a modelling of multiple financial mechanisms (e.g. blended-finance, payment for ecosystem services, green bonds, development and multilateral bank guarantees, etc.) will be developed to leverage public-private financing for large-scale restoration.

Program Governance and Efficiency

Internal Governance. The ASL project in Brazil is treated as a single project by the World Bank system; ASL2 is considered additional finance to the ASL1 project already underway. ASL II adds a new executing agency, Fundação Getúlio Vargas (FGV), for components 1 (only subcomponent 1.2), 2, 3, 4; FGV is the only new recipient of funds from ASL2. ASL1 already had two executing agencies: FUNBIO for component 1 of the ASL project (also collaborating on activities in Components 2, 3, and 4 that involve protected areas), and Conservation International Brasil for Components 2, 3, and 4. Multiple interviewees noted that the introduction of this new executing agency as part of ASL2 will require a review of implementation responsibilities and arrangement to ensure harmonized implementation, particularly for activities under Components 2, 3, and 4. These are currently being clarified. Increased coordination by MMA for these issues is expected, along with effort for integrating planning, execution, and joint reporting across the two phases of the project.

The strong engagement of Brazilian Amazon state governments, inherited from ARPA, has been important given political changes at the federal and state levels. The overall coordination of the project remains with MMA, but state governments are important sources of cofinancing and lead many local actions. Interviewees also indicated that technical engagement has been extremely strong; the national technical team has transitioned through the political changes, bringing important continuity in understanding the project and stakeholders that need to be involved.

Efficiency of project start-up. Conceptualized in 2018, the project faced substantial changes in the federal government and in four state governments after elections in October 2019. Interviewees stated that new governments made important institutional changes that affected the submission of the ASL II project for CEO endorsement, including changes in focal points, changes in management, and new priorities for new administrations, and the centralization of decision making in MMA. Although the ASL II child project was ready for submission for CEO Approval since the beginning of 2020, it was only submitted in December 2020 due to significant restructuring of the MMA (which divided decision making for the project from one into three Secretariats, among other changes) and the addition of FGV as an Executing Agency for the project.

COVID-19 has also had a significant impact on the ASL I project and is expected to hinder the implementation of ASL II project in Brazil. With the COVID-19 pandemic, both MMA and World Bank banned all field visits by the project team. In addition, many technicians fell ill. The impact of the pandemic is expected to remain large at least during the first half of 2021.

Knowledge Platforms

The Brazil child project is expected to play an important role in knowledge sharing for ASL II. The impact program PFD states that "Experience gained under the Brazilian project will develop approaches and lessons which can subsequently be replicated in other areas of the Amazon, and Brazilian stakeholders will benefit from approaches and lessons learned in other countries through participation in Regional Coordination Project activities."

Summary of Findings

Sustainable Cities

The relevance of design of the Sustainable Cities child projects is confirmed, as both child projects seem aligned with local, national, and international priorities for Brazil. The incentives for participation are related to the opportunity of carrying out integrative activities that would otherwise not be possible under the sector-specific budgetary allocations.

Design of the child projects is coherent with the overall Sustainable Cities IAP and impact program programs, including common objectives, components, and outcomes. Both projects are based on introducing new sustainable urban management tools at local government level to inform evidence-based planning, and include activities supporting networks of cities to promote replication.

The cross-cutting issues of gender and private sector participation are not prominently present in the design and implementation of the SC-IAP child project, and it is too early in the preparation of the SC-impact program child project to say whether they will acquire a higher profile in the future. Resilience is given more attention in Brasilia and Recife.

The internal governance of the two child projects raises concern. The collaboration of federal, state, and municipal agencies is complex to construct and to manage, with interviews suggesting that the federal level agency is more influential. Electoral cycles, staff turnover, and COVID-19, in addition to the administrative requirements of the GEF grant, add difficulties to project implementation.

Knowledge platforms play an important and promising role in both child projects as they aim at facilitating the systematic absorption of lessons learned and their dissemination to other cities. However, design choices made under the SC-IAP child project for the national platform have created a dualism of initiatives which could undermine the success of this component. Participation in GPSC activities has been positive.

The results of the SC-IAP child project at midterm have not been measured yet (the midterm review is underway), given the significant delay in project start-up. However, 2020 updates indicate potentially significant difficulties in achieving expected project outcomes in Recife, and moderate ones elsewhere.

Evolution of GEF integrated approach. The SC-impact program project is currently being prepared by WRI Brazil under a contract with MCTI and UNEP. As preparation is still at an early stage, there are no documents to review beyond the initial PIF, and there were no identified

local stakeholders in the participating cities to be interviewed. SC-IAP partners were consulted by the project design team on specific topics but are not involved in project preparation: PCS was consulted at the beginning with the selection of the cities and suggested the participation of Belem and Teresina. MCTI apparently intends to reduce the number of project partners, despite the increase of the scope from a municipal to a metropolitan scale. SC-impact program may focus on the development of IT management tools like those developed under the SC-IAP, especially the one developed for Brasilia.

GGP IAP

The GGP child projects in Brazil are **relevant** to national policies and programs, although political changes during implementation have presented a challenge to the continuing alignment and execution of the projects. The projects are also aligned with, and working in cooperation with, other donor initiatives, such as the Collaboration for Forests and Agriculture (CFA). The project targets soy in the MATOPIBA region (lying within the Cerrado), which is highly relevant given recent trends in agricultural expansion and deforestation.

The **coherence of design** is consistent with the overall GGP IAP theory of change, and this theory is considered sound and innovative. However, in Brazil, the demand and supply sides have not been sufficiently integrated during implementation, and current key drivers of change have not been adequately considered. Now, in the second half of implementation, opportunities to benefit from integration are starting to emerge.

The **cross-cutting issues** of **gender** and **resilience** have been given somewhat limited attention in the Brazil Production and Demand Projects. At midterm, the actions recommended in the Production Project's gender assessment were still pending, resulting in a new plan. **Private sector engagement** is featured prominently in the GGP child projects. The Demand Project has had substantial success in this regard, finding effective entry points to engage with private producers and traders and using collection action through platforms to drive market change. Private sector engagement was not the core of the Brazil Production Project's work, although it faced challenges given the changes in the political climate and the withdrawal of large producers' associations from the project.

The internal governance has been challenging for both GGP child projects given the large number of GEF Agencies and project partners involved, as well as a complex management arrangement for the Brazil Production Project that ultimately fell to Conservation International Brasil. Transactions costs have been considered to be high. Coordination is starting to improve, however.

The Brazil child project has been somewhat disconnected from the overall GGP **knowledge platforms**, with little GEF funding available for participation. Bringing the Brazil Production Project's new government partners to the global GGP conference, however, was seen as a catalyst for reviving the project after the withdrawal of major partners.

Progress toward results has been substantial in the Demand Project, with strong outcomes in soy through the Soy Toolkit and Cerrado Manifesto, which may have a significant impact on the

global market and even herald a transformative shift. Progress has been more muted in the Brazil Production Project, in part due to major changes in the political context and partnerships. The MTR raised serious concerns about the project's ability to deliver on GEBs, though institutional and policy outcomes have been identified at the midterm.

Evolution of GEF integrated approach. While the FOLUR child project (discussed below) also focuses on commodity value chains in the Cerrado, as did the GGP Brazil child project, the projects are located in different parts of the Cerrado, and the FOLUR project focuses more strongly on beef (which was not part of the GGP project). Interviewees expressed disappointment that the FOLUR project did not build more directly on the GGP one, given the momentum that has started to build in terms of supply chain integration, as well as expressed some disappointment that the partners and lessons from GGP were not more directly influential on the design of the FOLUR child project.

FOLUR impact program

The **relevance of design** of the FOLUR child project is confirmed, as it appears to be well aligned with national and international priorities for Brazil, as well as other donor initiatives. As proposed, the child project also identifies an opportunity to complement ongoing sustainability activities.

The child project is **coherent at design** with the FOLUR integrated Theory of Change for sustainable food systems and landscape restoration. Project documents indicate that the project will build on past World Bank-implemented initiatives and scale up existing innovations; however, interviewees questioned whether the GEF intervention was at the appropriate scale to support transformational change.

The **cross-cutting issues** of gender and resilience are not presented in detail in the design of the FOLUR child project. The child project places a strong emphasis on the role of the private sector to support project objectives and transformational change and has indicated that initial partnerships are under development.

The planned **internal governance** of the FOLUR child project appears to be solid. Stakeholder feedback indicates that the project has been prepared in a collaborative way between MMA and MAPA, and it is expected that this close collaboration between environmental and agricultural governmental institutions will continue during implementation. Additionally, the child project Executing Agency, SENAR, is viewed favorably by stakeholders and has worked with the World Bank and adopted good environmental practices through this engagement.

Information is limited on the role of **knowledge platforms** in the child project. Project documents indicate an intention to engage with other countries and platforms through the FOLUR global platform, the UNDP Commodities Program, the Good Growth Partnership and with other FOLUR child projects.

Amazon Sustainable Landscapes impact program

The Amazon Sustainable Landscapes impact program child project is **coherent** with the parent project theory of change and **relevant** through its alignment with previous and ongoing national programs, as well as with the proposed National Plan for Control of Illegal Deforestation and Recovery of Native Vegetation, 2020-2023. The ASL II Brazil project is built on the successful ARPA and ASL I projects, expanding the geographic focus to existing protected areas outside of ARPA and strengthening connectivity between protected and productive areas.

The **cross-cutting issues** of gender, resilience, and private sector feature clearly in the design of the child project. The private sector is expected to play a significant role as beneficiaries of project interventions and as candidates for scaling up project interventions, with special attention given to multicriteria spatial and financial modeling mechanisms to foster large-scale restoration and improve incentives for farmers to invest in relevant best practices.

Project start-up has been slowed by institutional restructuring following national and state level elections, and the designation of a new executing entity for the child project (processed as Additional Finance by the World Bank) is expected to create additional challenges for overall project governance. COVID-19 has also had a significant impact on execution of the parent project, which is expected to continue at least through the first half of 2021. Continuity within the government technical team and the commitment of state level actors were seen as mitigating factors.

Knowledge platforms. The Brazil child project is expected to play an important role in knowledge sharing for ASL II, with experience in Brazil expected to be used to develop approaches and lessons which can be applied in other areas of the Amazon and Brazilian stakeholders benefitting from approaches and lessons learned in other countries.

Appendices

Appendix 1 – List of interviews conducted

Name	Role/Organization	Interview Date
Adriana Moreira	Senior Biodiversity Specialist, GEF Secretariat	December 17, 2020
Alexandra Fischer	UNDP	December 4, 2020
Aline da Silva	UNDP GGP M&E	
Amanda Sennert	Conservation International	November 23, 2020
Ana Maria Gonzalez	World Bank	November 30, 2020
Andrea Bina	UNDP GGP M&E	November 26, 2020
Asher Lessels	Task Manager, UNEP	November 19, 2020
Bernadete Lange	Senior Environmental Specialist, World Bank	January 6, 2021
Dieter Fischer	IFC	December 2, 2020
Frederico Machado	WWF Brazil	December 8, 2020
Geordie Coville	SC-IAP coordinator, UNEP	November 19, 2020
Isabella Freire	Proforest	November 27, 2020
Isadora Filiberto	Project Coordinator, Porto Digital/ARIES	January 11, 2021
Jane Lino	Proforest	November 27, 2020
João Arthur Soccal Seyffarth	Environmental Analyst, Ministry of Environment (MMA)	January 7, 2021
John Buchanan	Conservation International	November 23, 2020
Karine Barcelos	Conservation International Brasil	November 26, 2020
Luiza de Oliveira Schmidt	Urban Development Coordinator, WRI Brasil	December 17, 2020
Marcela Cristina Rosas Aboim Raposo	Project Coordinator, Ministry of Sciences, Technology and Innovation (MCTI)	November 27, 2020
Marco Aurélio Lobo Júnior	Project Coordinator, CGEE	December 9, 2020
Mariana Parra	Procurement Manager, Conservation International Brasil	December 16, 2020

Miguel Moraes	Conservation International Brasil	November 26, 2020
Nazaré Lima Soares	Project Coordinator, SEMA-DF/CGEE	December 15, 2020
Neila Maria Cavalcante	Project Manager, Conservation International Brasil	December 16, 2020
Otavio Ferrarini	Project Coordinator, Ministry of Environment (MMA)	January 8, 2021
Ruth do Coutto	SCimpact program Coordinator, UNEP	November 19, 2020
Tanya Yudelman	Environmental Specialist, World Bank	January 6, 2021
Viviane Romeiro	Climate Change Manager, WRI Brasil	December 17, 2020
Zuleica Goulart	Project Coordinator, PCS	January 7, 2021

Appendix 2 - References

Dou, Y., da Silva, R.F.B., Yang, H. et al. Spillover effect offsets the conservation effort in the Amazon. J. Geogr. Sci. 28, 1715–1732 (2018).

GEF (Global Environment Facility). 2019. Program Framework Document. Food Systems, Land Use and Restoration (FOLUR) Impact Program. GEF project ID: 10201.

GEF (Global Environment Facility). 2019. Program Framework Document. Amazon Sustainable Landscapes Program Phase 2 – ASL 2 Child Projects. GEF project ID: 10198.

GEF (Global Environment Facility). 2019. Program Framework Document. Sustainable Cities Impact Program. GEF project ID: 10391.

GEF IEO (Global Environment Facility Independent Evaluation Office). 2018. Formative Review of the Integrated Approach Pilot Programs. Evaluation Report No. 126.

GGP (Good Growth Partnership). No date. Project Document. Generating Responsible Demand for Reduced Deforestation Commodities. GEF project ID: 9182.

GGP (Good Growth Partnership). No date. Project Document. Good Growth in the Brazilian Soy Supply Chain. GEF project ID: 9617.

GGP (Good Growth Partnership). 2019. UNDP-GEF Midterm Review (MTR). Adaptive Management and Learning for the Commodities IAP. GEF project ID: 9179.

GGP (Good Growth Partnership). 2020. COVID-19 and Soy in Brazil.

GGP (Good Growth Partnership). 2018. Year One: Good Growth Partnership Highlights: 2018.

GGP (Good Growth Partnership). 2019. Year Two: Good Growth Partnership Highlights: 2019.

GGP (Good Growth Partnership). 2020. Year Three: Good Growth Partnership Highlights: 2020.

GGP (Good Growth Partnership). No date. Report for Technical Workshop. Emerging Lessons from the Implementation of the GEF-6 Commodities Integrated Approach Pilot Program.

UNDP (United Nations Development Programme). 2019. Fiscal Year 2019. Project Implementation Report (PIR) Taking Deforestation Out of the Soy Supply Chain. GEF project ID: 9617.

UNDP (United Nations Development Programme). 2020. Fiscal Year 2020. Project Implementation Report (PIR) Taking Deforestation Out of the Soy Supply Chain. GEF project ID: 9617.

UNDP (United Nations Development Programme). 2020. Mid-term Review (MTR). Taking Deforestation Out of the Soy Supply Chain. GEF project ID: 9617.

UNDP (United Nations Development Programme). No date. Project Document. Taking Deforestation Out of the Soy Supply Chain. GEF project ID: 9617.

UNEP (United Nations Environment Programme). 2019. GEF Fiscal Year 2019 Project Implementation Report (PIR). Promoting Sustainable Cities in Brazil through integrated urban planning and innovative technologies investment. GEF project ID: 9142.

UNEP (United Nations Environment Programme). 2020. GEF Fiscal Year 2020 Project Implementation Report (PIR). Promoting Sustainable Cities in Brazil through integrated urban planning and innovative technologies investment. GEF project ID: 9142.

WWF (World Wildlife Federation). 2019. GEF Fiscal Year 2019 Project Implementation Report (PIR). Generating Responsible Demand for Reduced Deforestation Commodities. GEF project ID: 9182.

WWF (World Wildlife Federation). 2020. GEF Fiscal Year 2020 Project Implementation Report (PIR). Generating Responsible Demand for Reduced Deforestation Commodities. GEF project ID: 9182.

WWF (World Wildlife Federation). 2019. WWF-GEF Midterm Evaluation (MTE) Final Report. Generating Responsible Demand for Reduced Deforestation Commodities. GEF project ID: 9182.

WB (World Bank). 2020. GEF Endorsement Draft. Brazil Amazon Sustainable Landscapes Project – Phase 2. GEF project ID: 10737.

WB (World Bank). 2020. Technical Workshop Program Report Draft. Building for the Future Together: The GEF-6 Sustainable Cities Integrated Approach Pilot Program.

KENYA Country Case Study Report

County official, GEF evaluation national consultant and extension workers in Murang'a county

Introduction

This Kenya Case Study is part of the broader Formative Evaluation of the GEF Integrated Approach to Address the Drivers of Environmental Degradation and provides deeper understanding of the design, process, and current results of the GEF-6 Integrated Approach Pilots (IAP) and GEF-7 Impact Programs (impact program) in Kenya. It was designed to assess the similarities and differences between the IAP and impact program child projects and to understand how the GEF integrated approach has evolved from the GEF-6 to GEF-7 financing cycles in the case of Kenya.

Kenya was one of three countries selected for case studies for the evaluation (along with Brazil and China). The criteria-based selection considered: a) coverage of global regions; b) the presence of both IAPs and impact programs in the selected countries; c) coverage of all IAP and impact program programs; d) the level of maturity of the IAP child project, at or close to Mid-Term Review (MTR); and e) the diversity of GEF implementing agencies covered under the three country case studies.[1]

The case study covers all three child projects under integrated programs in Kenya (table 1). The first one, the Upper Tana Nairobi Water Fund Project (UTNWFP or short "Water Fund project"), has been implemented since 2016 under the Food Security IAP (FS-IAP, renamed Resilient Food Systems [RFS] Program) by the International Fund for Agricultural Development (IFAD). Two child projects are currently under preparation for the Sustainable Forest Management (SFM) impact program Drylands and the Food Systems, Land Use and Restoration (FOLUR) impact program, implemented by the International Union for Conservation of Nature (IUCN) and Food and Agriculture Organization (FAO) respectively. The IUCN project has been submitted for CEO

[1] See Inception Report for more details on selection.

Endorsement in December 2020; the FAO project is still in its project preparation grant (PPG) phase.

The case study took a mixed methods approach, using both desk review of project and national documents, as well as interviews with representatives of the Government of Kenya, Agency and project staff, and external stakeholders. Due to continued travel restrictions and safety considerations as a result of the ongoing COVID-19 pandemic, the case study was largely conducted remotely. The lead international and national consultants carried out seven interviews by call. The national consultant also took a field visit to one of the four counties, Murang'a, where the ongoing FS-IAP Water Fund project is implemented. Due to COVID-19 field visits to other counties were not possible in this evaluation. In Murang'a country the consultant met with the County Executive Committee for Agriculture, County and Civil Society Organization (CSO) extension workers, followed by discussions with beneficiaries in the field. All COVID-related national and local guidelines were followed throughout the duration of the field visit. At completion, evaluation findings were validated through a virtual closing meeting headed by the designated representative of the Kenya GEF operational focal point and with stakeholders from all relevant projects (Appendix 1 for list of participants).

Kenya GEF-6 IAP and GEF-7 impact program Project Information

GEF ID	Project	Coverage	Agency	Status approved / completed	Finance		
					GEF	**Co-finance**	**Source of Cofinance**
					US$ million		
9139	**FS-IAP:** Upper Tana Nairobi Water Fund Project (UTNWFP)	4 counties* in Upper Tana (Murang'a, Nyeri, Nyandarua, Laikipia)	IFAD	Under implement-ation 2016-2021	7.2	61.05**	Private sector, Counties, CSO, Beneficiaries IFAD loan project*
10292	**SFM impact program Drylands:** Strengthening forest management for improved biodiversity conservation and climate resilience in	2 aouthern counties (Kajiado, Narok)	IUCN	Submitted for CEO endorsement, returned to Agency to address comments	5.94	13.0	Counties, Private sector, CSO, IUCN

GEF ID	Project	Coverage	Agency	Status approved / completed	Finance		
					GEF	**Co-finance**	**Source of Cofinance**
					US$ million		
	the Southern rangelands of Kenya						
10598	**FOLUR impact program:** Integrated landscape management for conservation and restoration of the Mt. Elgon Ecosystem in Western Kenya	2 western counties (Bungoma, Tran Nzoia)	FAO	Included in Council-Approved PFD	5.35	51.2	Counties, Private sector, CSO, IUCN

* There are 47 counties in Kenya which has a total population of 52 million.

** According to the IFAD MTR total project costs are US$33.6 million, of which US$7.2 million come from the GEF grant and US$26.4 million are cofinanced. A planned cofinance of US$37.89 million through another IFAD project is not included in the MTR, although it was included in the 2016 CEO Endorsed project document. Cofinance sources reported in the MTR are: US$3m from TNC cofinance, US$10m from private sector contributions, US$11.9m from NGOs and counties (mainly in-kind) and US$1.5m from beneficiaries (cash and kind).

The **Upper Tana Nairobi Water Fund Project (UTNWFP) (GEF ID 9139)** is a 5-year PPP implemented by the International Fund for Agricultural Development (IFAD) and executed by an international NGO, TNC, on behalf of the Ministry of Environment and Forestry. It was one of the first FS-IAP projects that became effective in October 2016 and its closing date is June 2021, after a one-year extension due to COVID-19 (PIR 2020).

Half of UTNWFP's GEF financing came from IAP set-asides, the rest came from the Land Degradation Focal Area (25%) and contributions by Biodiversity and Climate Change Focal Areas (12.5% each). The project targeted 1 million hectares under sustainable land management and the mitigation of 1.64 million mtCO_2e at its inception.

The goal of the UTNWFP is that "The Upper Tana-Nairobi Water Fund as a Public-Private-Partnership increases investment flows for sustainable land management and integrated natural resource management in the Upper Tana catchment", north of Nairobi. The project targets 21,000 smallholder farmers in four counties through three components: 1. Institutionalizing a Water Fund management platform; 2. Improved Upper Tana catchment ecosystems that support livelihoods, food security, and economic development; and 3. Robust knowledge management and learning systems lessons sharing, both nationally and regionally.

The **IUCN Drylands SFM impact program Southern Rangelands child project (GEF ID 10292)** addresses "Strengthening forest management for improved biodiversity conservation and climate resilience in the Southern rangelands of Kenya." It is focused on land restoration and forest conservation with a strong livestock marketing aspect in two counties where the Kenya National Environment Management Authority (NEMA) serves as the executing agency in collaboration with Kenya Agricultural and Livestock Research Organization (KALRO). 42% of the GEF grant comes from Biodiversity Focal Area financing, 33% from impact program set-asides, 17% from Land Degradation and 8% from Climate Change Focal Areas.

The Southern Rangelands project aims "To restore southern Kenya dryland forest and rangeland landscape for resilient environment and community livelihoods." The project plans to reach 200,000 beneficiaries, 36% of whom are women. Its three components are 1. Strengthening the enabling environment for the sustainable management of drylands, 2. Investment in scaling up sustainable dryland management, and 3. Programmatic coordination, monitoring, and knowledge management.

The project goals are to restore 400,000 hectares of land, of which 25,000 are agricultural land, 25,000 are forest land and the remaining 350,000 are natural grass and shrublands. In addition, the project targets 200,000 hectares of landscapes under improved agricultural practices.[2] The project is also expected to directly mitigate 1.5 million $mtCO_2e$ over 20 years.

The **FAO FOLUR impact program Mount Elgon project (GEF ID 10598)** of "Integrated landscape management for conservation and restoration of Mt. Elgon eco-system in Western Kenya" covers the two counties of Bungoma and Trans Nzoia and plans to generate synergies with a similar UNEP-implemented FOLUR project for Mt. Elgon across the border in Uganda. 41% of the GEF grant comes from Biodiversity, 25% from Land Degradation Focal Area financing, and 34% from impact program set-asides. The project goals are to restore 10,000 hectares of land and 50,000 hectares of landscapes under improved practices.[3] The project is also expected to directly mitigate 5.4 million $mtCO_2e$ over 20 years.

The main objective of the Mount Elgon project is 'To promote sustainable, integrated management of Mt. Elgon landscape through the development of inclusive responsible coffee value chain and sustainable staple food production systems' and plans to reach 60,000 beneficiaries, half of whom are women. The project has four components: 1. Integrated landscape management systems and land use plans (lowlands, mountains, small/large scale farming etc.); 2. Sustainable food production practices and responsible value chains; 3. Conservation and restoration of natural habitats (Lake Victoria watershed, carbon sink); and 4. Project coordination, collaboration, communication and monitoring and evaluation.

Findings

2 Targets based on project document submitted in Dec. 2020.

3 Targets based on project document submitted for CEO Endorsement in December 2020.

Relevance of design

Alignment with national policy and commitments

All three integrated projects in Kenya are fully in sync with government priorities, policies, and strategies such as Vision 2030, Big 4 Agenda, National Adaptation Plan, Nationally Determined Contributions, the Environmental Management and Co-ordination Act, No. 8 of 1999 (amended in 2012 and gazetted in 2015), the Climate Change Act (2016), the National Policy on Climate Finance (2018), the National Biodiversity Strategy and Action Plan (2000), the Forest Conservation and Management Act (2016), and the Water Act (2016) among others.

The **Water Fund Project** is strategically aligned with and highly relevant to the Kenyan government's objective of conserving water towers (i.e., watersheds) that are critical to the economic well-being of the country and essential to the livelihoods of millions of farmers and citizens. Its PPP approach fosters greater interest by government in the project. The Water Fund project remains a national priority for Kenya, which enables mainstreaming of the project's modality in the government planning process and justifies national and county governments and their agencies to support the project financially and with their staff (PIR 2020). The relevance of this project is also demonstrated by the government's recent allocation of counterpart funds for three additional critical water towers in the country (two are funded through GEF-7). The Water Fund and its integrated approach is encouraged by GEF as a scalable initiative across Africa (PIR 2020). The Water Fund model was presented by TNC at a GEF Expanded Constituency workshop in Nairobi in February 2020.

Site and type of intervention of the planned **Mount Elgon project** are also driven by the government's interest in covering more water towers in the country with an integrated approach to agriculture and natural resource management (NRM). Although it is not directly linked to the Water Fund, the Mount Elgon project offers a particular opportunity to integrate and learn from the field experiences of the Water Fund project and other non-impact program/IAP GEF projects in Kenya. Information exchange has already started between the design and implementation teams of the two projects.

The **Southern Rangelands project** under design is particularly relevant and important as a model to better manage the increasing demand for forest products in Kenya, including timber and non-wood forest products and to promote alternative livelihoods for farmers and rural populations. The project directly supports Kenya's commitment to restore 5.1 million hectares of land in the country under the Bonn challenge with AFR100 and aligns with NDC actions calling for increased tree cover, climate smart agriculture, and drought management (IUCN PIF).

Government and Agency motivation for participation in impact program

Interview partners in Government and GEF Agencies in Kenya perceive the comparative advantage of GEF and the integrated program approach mainly for its catalytic and thematically challenging interventions. The Government, i.e., the hosting the GEF Focal Point, has been primarily motivated to participate in the IAP/impact programs due to their holistic and programmatic approach and the strong emphasis on livelihoods in addition to environmental

considerations. Interviewees stated that past GEF projects tended not to perform that well because they often focused almost exclusively on the environment and did not sufficiently consider real income earning opportunities for communities. In contrast, the new generation of IAP/impact programs now concertedly target the nexus between environment, agricultural productivity, sustainable land management and livelihoods enhancement. The holistic watershed approach in the Water Fund project is especially appreciated by the government and offers an opportunity and entry point for MoEF to work with ministries and agencies focused on agriculture, water, and other sectors. The IAP/impact program emphasis on private sector engagement, value chain focus, and transboundary cooperation with Uganda are important too. It is noted that the Upper Tana Nairobi Water Fund project hosted a Ugandan delegation for cross-country learning as Uganda is one of the Child Projects in the FS-IAP. The FOLUR project is targeting Mt. Elgon, which is a trans-boundary ecosystem shared between Kenya and Uganda and will afford learning across the two countries. The incentive payments are another critical factor to encourage participation and help to compensate for the extra effort required to develop high quality proposals—although the Government perceived that these incentive payments were reduced in GEF-7.

Interview partners from the Agencies see the impact programs as more in line with their policies and experiences in Kenya than "classical" GEF projects as they push 'in a big way' towards governance, stakeholder consultations, market linkages, and private sector. The impact programs offer a comprehensive suite of interventions and a transformative agenda with a unique opportunity to address environmental issues more holistically in a 'whole-of-systems approach'. But such an approach also requires managing of expectations since multisectoral interventions are by definition more complex and tend to require more resources and time. For IUCN, the GEF is also seen as opening more government and policy doors through the impact programs, including through their international linkages. For FAO an opportunity lies in the strong impact program focus on livelihoods, value chains and income earnings that could avoid limitations in past GEF landscape/forest restoration and enterprise development projects that were not attractive enough for beneficiaries. FAO's experience in GEF-5 in forest restoration linked to national policies and strategies can now be carried forward in the Mount Elgon project in the FOLUR impact program.

Coherence of design, innovation, environmental governance, and M&E

Coherence of child projects

All three child projects in Kenya address objectives of the Conventions on land degradation, biodiversity, and climate change and receive respective GEF focal area funding, except for the Mount Elgon project that only includes land degradation and biodiversity funding (Appendix 3). All projects include GEF core indicators for global environmental benefits (GEBs) associated with the three corresponding focal areas. The components of the projects are fully aligned with the theories of change of, and mirror the components in, the overarching IAP/impact program programs (FS-IAP, SFM Drylands, and FOLUR).

Innovation

Interview partners in Kenya confirmed that the IAP and impact program programs brought many innovative ideas and practices that are new for the country beyond their integrated soil and land management practices. The most innovative and ground-breaking aspects in the Water Fund project are its private sector approach to sustainable fundraising and linking this to the payment for ecosystem services to ensure sustainability and farmer/community incentives (see next section on Environmental governance). These innovations caused some initial challenges, and it took time for players to understand the project. Also in the Water Fund project, the TNC model brought new, modern communication and environmental measurement technologies, such as an SMS platform, GIS and telemetric stations (see box below). The application of the Land Degradation Surveillance Framework (LDSF) in partnership with the World Agroforestry Center (International Council for Research in Agroforestry, ICRAF) also helped the project better understand the extent of land degradation and soil health in the project areas, thus informing the selection of interventions.

For the Southern Rangelands project the main innovation is the incorporation of value-chain and livelihood aspects as part of its activities; and particularly through doing so by linking livestock marketing premium prices to those communities that can demonstrate participation and positive results in natural research management/soil and land management (NRM/SLM) management, a form of indirect payment for eco-system services.

Digital applications and information sharing in the Water Fund

In addition to telemetric measurement stations, farmers started to benefit from enhanced and timely weather and climate advisory services thanks to the rollout of the SMS-based weather and climate advisories platform, in collaboration with the Meteorological department, county governments and the MoA. Results on water quality and quantity analysis are shared with stakeholders through KM products, reports and virtual sharing platforms like Zoom, WebEx and Skype.

In addition, the Water Fund has intensified the use of various social media platforms, including Twitter and Facebook, to communicate project activities. The project is also using its SMS platform covering 26,119 farmers to communicate area-specific conservation and meteorological messages, information on water pan liners and guidelines on their installation. This is particularly useful during a time of limited personal communication opportunities due to COVID-19. In addition, information is shared through the Water Funds for Africa Network platform.

Environmental governance

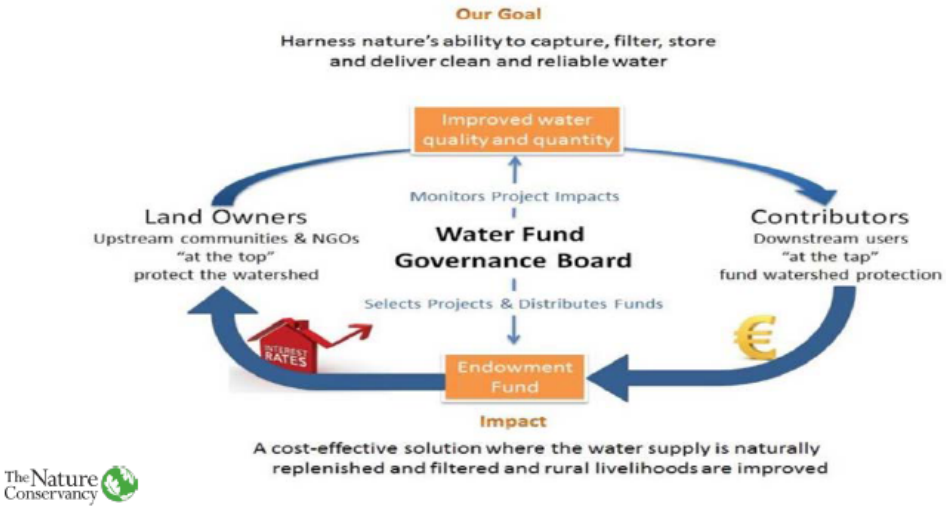
Many ministries and authorities are involved in NRM, water resources, and climate change in Kenya, including: the Ministry of Environment and Forestry (MoEF); the Ministry of Agriculture; the Ministry of Water, Sanitation and Irrigation; the Ministry of Devolution; and the National Environmental Management Authority (NEMA) as far as pollution is concerned. MoEF primarily deals with policy and less with implementation, so while it is a key agency, its role is a bit more peripheral and less that of a convener for implementation. Its financial resources also currently would not allow to assume a larger role here. However, it should be noted that the Ministry also has a role in implementation through its Agencies for example the Kenya Forest Service,

NEMA and the Kenya Forestry Research Institute. It is a key requirement for GEF Agencies to develop proposals (PIFs) jointly with the relevant government Ministries, Departments and Agencies (MDAs), since these are the same MDAs that will implement on the ground. The MoEF also provides technical support and inputs through their participation in field supervision and project implementation support missions. Other interviewees believe the national NRM and climate finance communities and their institutional architecture and governance in Kenya are relatively fractured. These interviewees mainly attribute this to ongoing devolution of roles to the counties and spread-out or poorly defined and limited organizational mandates.

Water Fund architecture. The strongest contribution of the GEF-6 Water Fund project to environmental governance is the Water Fund's Endowment Fund itself. The Water Fund is the financial pillar and core of the project and collects private sector contributions downstream from water users and others to protect the watershed upstream in catchment areas, through the principle of eco-system service payments (see figure below). The Nature Conservancy (TNC) piloted and implemented this model in other countries over the last 20 years and extended it to Kenya in 2013 with an upgraded methodology. Kenya is the location of the first Water Fund in Africa and the UTNWF is the largest one in East-Africa. It has been a groundbreaking innovation that by now has led to one more such Fund operating in Cape Town, South Africa, and to seven others being developed across the continent (Appendix 4).

The Kenya Water Fund is 51% private sector and 49% government represented and has a Governance Board (Board of Trustees and Board of Management), a national Project Steering Committee (PSC) and a County Advisory Committee. The PSC consists of 21 members, from national and county levels, and is chaired by the GEF Political Focal Point. It includes various government line ministries (such as MoEF, Agriculture, Water and The Treasury), the private sector, research institutions (e.g., Jomo Kenyatta University of Agriculture and Technology - JKUAT), and county governments. The County Advisory Committee has representatives from the participating counties (county ministers) that are expected to provide some support through county budgets and integrate Water Fund activities in their county development plans.

The Water Fund Model



Yet, private sector financing of the Water Fund Endowment is still lagging, and some early targets have been reduced (see Private Sector section below for its capitalization). It is noteworthy that smallholder farmers themselves contribute with contributions to the Water Fund, through their co-payments of local investments and equipment and maintenance of generated assets.

Frequent shifts of institutional roles and responsibilities and the ongoing decentralization process complicate work for the Fund and in the field. A broad array of stakeholders and many Ministries come together in the Water Fund, but the departments and their responsibilities keep shifting, a challenge for continuity and progress. For instance, the PSC how has the 5th chairperson in 4 years. Furthermore, the constitutional process of decentralization changed roles and responsibilities for implementation and in tariff and fund appropriations. At county level, the County Executive Committees play a critical role in coordinating and implementing the Water Fund project activities on the ground since many operational tasks were devolved to the counties. Other operational responsibilities remained with national ministries which makes coordination somewhat challenging.

At the same time, interviewees saw only limited scope for engagement and leadership in the GEF portfolio and the sector through the GEF OFP and the Ministry of Environment and Forestry during GEF project implementation. This was mainly due to resource gaps and no GEF funds being made available for this purpose.[4] Interviewees also perceived a need for greater information exchange and cross-learning at the national level among different GEF projects.

Governance at county level. Guided by the Government's Inter-government Relations Act, the GEF Water Fund project strongly supports decentralization to the county-level and actively promotes new ways of fostering environmental governance and farmer and community support at the sub-national level. Decentralization has also led to considerable political support in the counties themselves ("Return the water to the county!"). The Water Fund Project builds on a strong alliance with the County Executive Committee of Agriculture. Field implementation also involves CSO facilitators, water user and forest user associations, and the Water Regulatory Authority. Awareness and capacity for integrated NRM and watershed management are advancing at the county level. A significant amount of work remains to ensure that the payment for ecosystem services (PES) model and farmers and communities' benefits endure beyond project completion, requiring adaptive management of the Water Fund and PES model.

[4] GEF STAR allocations are off-budget, but the MoEF still has to report monthly on budgets and physical progress to Treasury and a Committee of all Permanent Secretaries. MoEF would prefer some allocation of GEF financing to the OFP to facilitate some monitoring and visiting of project sites by Kenyan GEF National Portfolio Steering Committee members. This committee is drawn from Public, Private and Civil Society Organization. For a start, 1% of the 10% GEF Agency Fees could be allocated to the OFP.

The Water Fund project has made commendable efforts to mobilize various partners to work with farmers in the field. Progress has been made at achieving better management and greater coordination of these partnerships in the field (IFAD 2020 Supervision Report).[5] As the project moves into its final year of implementation and prior to transiting into the Water Fund, the latest supervision mission sees a need for a formal review of existing partnerships to determine which of these partnerships have been able to assist effectively in project implementation.

Policy dialogue. The Water Fund project also supports policies and incentives for climate smart smallholder agriculture and food value chains in financially viable and sustainable watershed stewardship (component 1, part 2). The MTR noted positive progress on the ongoing county-level policy dialogues, which are being conducted with and through the County Executive Committees for Agriculture. Three white papers have been produced for three of the four target counties. The project is also working with Kenya Rural Roads Authority (KeRRA) in Murang'a County to integrate rainwater harvesting from road run off. Policy dialogues are focusing on (1) riparian land management (pegging, maintenance, protection, sustainability, wetlands); (2) plants (water unfriendly, invasive, establishment localities); (3) quarries management (establishment of management committees, best practices, support by counties, rehabilitation); and (4) road runoff safe drainage and necessary conveyancing across farmers' fields which generally consist of steep slopes. The MTR also noted that the policy dialogue processes need to be expedited and greater documentation of successes and lessons learned captured in order to inform decision making. The MTR recommended the MoEF to lead a review of public policies and regulations financing catchment conservation to better coordinate efforts to fundraise for the Water Fund.

Secure community ownership and sustainable resource governance. The two impact program child projects under preparation plan to pay special attention to strengthening governance and community and county institutions. The **Southern Rangelands project** interviewees consider community institutions such as community wildlife conservancies, community forestry associations and livestock producer organizations as critical to grassroots ownership. At the county-level, the project envisions County Steering Committees as essential to foster ownership but acknowledges that many county departments are nascent and require considerable capacity building. According to project designers the 'GEF natural resource governance framework' offers a useful approach with clear management and inclusiveness criteria to support these capacities. The project plans to address the principal constraint of sustainable governance and management of dryland forests through improving capacity in organizing and

[5] The Water Fund project MTR (2019) had called for better design of partnership agreements with clear targets and demonstrated linkage effects between conservation and agriculture that could help to improve management. The MTR had also seen a need for partners to allocate more resources to innovative extension approaches, technical support, follow-up and monitoring.

managing local institutions and policy frameworks at the conservancy, county, and inter-county level.

Sustainability in dryland management requires that local people have secure rights to access, manage, use, and enjoy the goods and services generated by dryland ecosystems and landscapes. The project will support analyses of existing conditions of tenure and use rights and contribute to negotiated development or modification of appropriate provisions for tenure and use right mechanisms. This will include the development of a framework for the management of shared pastoral and agropastoral resources including traditional pasture management systems and conflict prevention.

Environmental governance at the local level and for organizing natural resource ownership, tenure and access is also considered of primary importance in the FAO implemented **Mount Elgon project**. According to FAO's experience in the GEF-6 Mt. Kulal project and others, future projects should promote more traditional models of community governance rather than modes that rely too heavily on Government. At Mount Kulal, FAO worked with elders to register land as community forest under the Community Land Act.[6] One interviewee expressed that Government agencies and many NGOs often start with environmental advocacy and implementation of restrictions that is seldom appreciated by the communities. There have been strong traditional natural resource governance systems in the past, but they have eroded over time.

At present, there is no system for payment for ecosystem services included in the design of the Mount Elgon project because few resources have market values that somebody may be willing to pay for. The future GEF FOLUR impact program child project plans to develop such systems through stronger valuation of water and eco-tourism, which will be supported through an economic ecosystem assessment and the valuation of ecosystem services, including carbon below and above ground. However, ecosystem service payments will also require effective national laws that are not yet in place in Kenya, except for some draft regulations on forest benefits sharing. Thus far all of these structures are voluntary, and the Kenyan experience has demonstrated that relying exclusively on voluntary contributions by private companies is insufficient to meet objectives.

Monitoring and Evaluation

The monitoring and reporting system has taken time to operationalize in the **Water Fund project**, but the project by now has ensured that indicators are coherent with the results frameworks of the broader FS-IAP that were finalized in 2020. Reporting and an impact survey are planned for 2021 provided that the COVID-19 circumstances allow for it.

Field level M&E in the Water Fund project includes an automated system that reports on hydrology and biodiversity indicators and contains an online reporting platform. Hydrological

[6] As confirmed by FAO, Mt. Kulal is not a gazetted forest but falls under community land.

data is measured upstream and downstream, including water quality and flow, with control and treatment sites. According to the 2020 supervision mission there have been many improvements in capturing all relevant metrics since the MTR. A beneficiary tracking system using the District Health Information System 2 (DHIS2) has been operationalized and is online. This database is the main tool for field staff and implementing partners to upload their data and for the project to analyze and generate reports and data visualizations to inform decision-making. The 2020 SV mission was impressed with the improvements of data quality and their regular follow-up by the project team since the previous supervision.

For the **Southern Rangelands project** the establishment of an M&E system and indicators was reportedly well guided through the GEF-7 core indicator sheet and the broader impact program results framework. However, there were some challenges related to coverage and target areas, and there was reportedly some upward pressure on these issues by the GEF Secretariat. There are some remaining issues related to possible double counting of land covered under various components and focal areas, as well as definitions and impacts at the household level (e.g., the definitions and impacts of the number and categories of beneficiaries in households that benefit, how "youth" age groups are defined,[7] and how to discern the ways in which changes to policies and best practices affect men and women).

GEBs. The **Water Fund project** carried out several baseline surveys for all five targeted GEBs. This includes a Land Degradation Surveillance Framework survey by ICRAF, data collection from 26 river gauging stations, a Multi-Poverty Assessment Tool (MPAT) that incorporated household food security as well as biophysical elements from the Resilience Adaption Pathways and Transformation Assessment Framework (RAPTA), the wetland biodiversity baseline by the National Museums of Kenya, and the assessment of avoided greenhouses gases (GHG) and carbon sequestration through the Ex-ACT tool. However, at mid-term the project had not yet followed up on the GEB baseline results, nor assessed GHG emissions mitigated or the river basin's aquatic and terrestrial biodiversity.

The latest PIR of 2020 reveals some progress towards achieving GEB targets. For example, the PIR reports that 16,913 hectares of land that had been previously degraded by water erosion have been put under sustainable land management (land degradation) and 200 hectares in forests are being restored to protect some of the world's most iconic wildlife (biodiversity). Current land-use changes being implemented are expected to avoid or sequester 4.1 million $mtCO_2eq$ over a period of 20 years (compared with a target of 1.6 million $mtCO_2eq$ at project design).[8] Core staff have undergone extensive training on how to capture GHG emission

[7] This is mainly a question of potentially differing definitions between the GEF Secretariat and The Government. The Government has a clear definition of youth which counts those up to the age of 35 years.

[8] Information received from the Water Fund project manager March 19, 2021.

reductions and carbon sequestration with various tools. The project selected Plan Vivo9 as its main standard and instrument, with the FAO Ex-act tool as one of the methodologies.

Cross-cutting issues (gender, resilience and private sector)

Gender

In terms of women participation, 40 percent of project beneficiaries in the **Water Fund project** are women, against an appraisal target of 50 percent (IFAD 2020 Supervision Report). The project improved women's control and access to productive resources and their decision-making role, and reduced their workloads. Women, as well as men, were empowered through growing horticultural crops with the help of more water pans, provision of fruit seedlings (such as avocado), and training. Three out of four extension workers are women, and the project provides a special 50% subsidy on all materials to target women-led households for drip kits and biogas.

The Water Fund project has a Gender Equality and Poverty Targeting Strategy and Action Plan, but at mid-term the action plan was found to lack 'timeliness, responsibilities, and clear budget lines' (MTR, p.14). Subsequently, a specific Women's Empowerment in Agriculture Training was prepared for 2020 but postponed due to COVID-19 (PIR 2020). To further enhance gender roles in the project, more gender sensitization for staff and implementation partners, bringing in suppliers of labor-saving technologies, and using the Women's Empowerment in Agriculture Index (WEAI) are suggested (IFAD 2020 Supervision Report). Additional avenues should be explored to attract the participation of youth. For the **Southern Rangelands Project,** one interview partner noted that GEF introduced important new aspects on gender and indigenous people.

Resilience

At inception, the Kenya **Water Fund project** benefited from a RAPTA based analysis of the resilience of ecosystems and households. At the watershed level, the combination of biophysical and agricultural techniques and support for water management were expected to lead to diversified production and increased yield, broadened adaptation potential, and ultimately, climate and household resilience. Unfortunately, partner reports from implementation thus far provide very little information on the links between conservation works, agriculture production and productivity, and farmers' livelihoods and resilience, partly since the planned impact survey for the MTR had to be postponed. Resilience was taken into consideration in analysis and design of the **Southern Rangelands project,** but the utility of the resilience concept in project design and results was found to be limited for two reasons. First, there is little consensus on how to understand and apply the concept of resilience consistently. Secondly, interview partners who raised this issue considered resilience more as a process-

[9] Plan Vivo is an Offset Project Standard for forestry, agricultural, and other land use projects with a focus on promoting sustainable development. t

oriented mechanism rather than a measurable outcome and understood there to be few concrete implications for core indicator and results measurement.

Private sector

The **Water Fund project** envisions significant engagement of the private sector, mainly in terms of seeding and replenishing the Endowment Fund and participation in its governance. According to several interviewees, a number of projects in Kenya have attempted to attract private sector involvement and funding, but this process is generally considered to be difficult. Direct benefits from involvement in such projects are not always clear to Kenya's private sector. Furthermore, Kenyan laws are also oriented towards large-scale private sector contributions and investment in PPPs that require high-rank governance committees. Given the current COVID-19 situation's impacts on employment and earnings significant private sector contributions are even less likely. The latest supervision missions recommended more resource mobilization from public sector and international sources for the Fund, including the Kenya Water Sector Trust Fund.

By Sept. 2020 the Water Fund project had collected a total of about US$ 2.2m[10] for the Endowment Fund, of which US$ 990k originate from GEF seed money and the remainder are from private sector sources, mainly the Coca Cola foundation, Frigoken and a small contribution by a US private sector donor. Additional private sector pledges of US$ 1.52m have reportedly been made but are not yet confirmed. Without the additional pledges, this is about US$ 5.3m short of target of US$7.5m for the Fund (or an achievement rate of 29.3 percent). Private sector contributions are to a large part earmarked and are directly disbursed for activities in the field as agreed with the project, some are also made in kind (i.e., for reforestation, water pans and drip kits). As of Feb. 2021, an amount of about US$ 2.0 million was in the fixed-interest deposit account of the Endowment Fund.[11] Overall, the 2020 IFAD supervision mission was concerned that private sector contributions were far below targets (at an achievement rate of 10.8 per cent), at the time of the SV mission. The supervision mission and interviewees in this evaluation identified several reasons for relatively weak fundraising for the Water Fund Endowment including: the business case forwarded by the project, companies' short-term interests and alternative mandatory payments for conservation, political changes, and policies and regulations governing private sector contributions (see box below).

The latest supervision mission of the Water Fund project reiterated its concern about the possibility of the project not reaching its US$7.5m resource mobilization target to ensure the

[10] According to the financial management section of the 2020 SV report, p.18. The PMU clarified that the project receives grants through (i) cash for endowment capitalization; (ii) cash for financing water fund activities under TNC procurement and financial management procedures; and (iii) in-kind support (inputs, water facilities etc.) which is directly implemented by partners.

[11] Information received from PMU on March 19, 2021.

Fund's successful continuation. As already suggested in the MTR, the public sector would have to get more strongly involved with guidance and contributions to ensure sustainability. Additional institutional representation by the public sector was suggested, "if considered

Reasons for limited fund-raising for the Water Fund

Interview partners noted several reasons for below-target private sector fund-raising for the Water Fund:

Business case: TNC has enhanced its resource mobilization in 2020, including the President of the Board of Trustees and a professional fund-raising consultant. But there is still concern among evaluation interviewees that the business case for private sector contributions remains too weak.

Double charges: Some private and semi-private utilities and companies already contribute to other statutory payments that are earmarked for conservation efforts. For instance, Kenya Electricity Company consumers already pay a conservation levy to the Water Resource Authority (WRA) that has a conservation mandate, although reportedly most of this money is used for WRA's operational and administrative costs.

Image/PR: When companies are willing to make a contribution, it is generally for more short-term image reasons, often a once-in-a-time contribution rather than a long-term commitment.

Changing political preferences: The Nairobi Water and Sewerage Company had initially planned to make a US$600k contribution, but then withdrew for political reasons when the Nairobi Governorship changed and the need to support the Water Fund was de-prioritized.

Lack of policy support: Conservation funding is currently not sufficiently consolidated. This includes sector-wide policy support for the consolidation of conservations funds/levies and channeling the same to initiatives such as the Water Fund. There are advanced discussions now to lobby the Government more strongly to

advantageous for policy engagement and access to public sector funding." The supervision mission also again proposed for the Fund to increase its discussions with the Water Sector Trust Fund (WSTF) in the Ministry of Water and to identify areas of potential synergy.

Program governance

<u>Efficiency of IAP child project implementation, start-up of impact program child project projects and choice of GEF agencies</u>

The **Water Fund project** started up very efficiently; it was among the first child projects being launched in the FS-IAP and has been making positive steady progress towards meeting its objectives and deliverables. The MTR was completed by IFAD on time (August 2019) and provides comprehensive information, well justified judgements in a concise format, and offers critical recommendations for the project and the Government. IFAD has also been undertaking annual field-based supervision missions and generating detailed supervision mission reports.[12] The reports cover all technical, M&E, KM financial and procurement aspects of the project.

[12] The supervision mission in August/September 2020 was undertaken virtually due to movement restrictions occasioned by the COVID 19 pandemic.

The **IUCN led Southern Rangelands project** was designed on time as part of the first batch of Drylands forests impact program projects to be submitted for CEO endorsement in December 2020. Resources for design (US$150,000) were considered "borderline" since preparation efforts went beyond a regular GEF project, international experts were involved, and COVID-19 considerations increased expenses. Ultimately, IUCN had to cofinance design from its own resources. IUCN is well qualified to implement the project; the organization has strong cooperation with the Kenya Government and Kenya Wildlife Service and its regional coordinator, who was also in charge of designing the project, is based in Nairobi. The project and the impact program fit well into IUCN's policy and strategic objectives including United Nations Convention to Combat Desertification (UNCCD) land degradation neutrality targets and the balancing of environmental and human concerns.

The **FAO led Mount Elgon project** (FOLUR impact program) is still in its PPG phase and has not yet submitted a detailed project document. The COVID-19 situation delayed preparation of the proposal in 2020. FAO has a very large country program in Kenya and is well connected with the Government. They also bring extensive experience from their involvement in a GEF-5 project in Kenya on enterprise development, timber products and wild harvesting, and landscape restoration (Kirisia Forest); and in another one in GEF-6, a Sustainable Forest Management project in Mt. Kulal and Mukogodo forests.

Program governance

The **Water Fund project** had close and mutually supportive interactions with IFAD as lead agency and the FS-IAP/RFS hub. This is in part because the hub project is carried out from Nairobi and IFAD is both program lead and implementing agency for the Water Fund project (with separate staff responsibilities). Nairobi often served as an RFS program meeting point and the Water Fund model was prominently disseminated through the hub project and FS-IAP reporting. According to project sources the key driver for success of the governance system has been that it was set up from the start through a broad-based consultative process.

The Water Fund project was envisioned to link to another cofinance IFAD project implemented by the Government of Kenya with funding from IFAD (UTNRMP). But this relationship remains weak and needs to be clarified and further advanced (see box below). The assumption that the UTNWFP could ensure the sustainability of the UTNRMP is not shared by all interviewees in Kenya, actually regarded as unrealistic by some, since the Water Fund project only covers a part of the larger UTNRMP project geographic area.

Cofinance of GEF Water Fund project through IFAD NRM project

TNC and IFAD designed the GEF Water Fund project (UTNWFP) together, as a stand-alone project but it was blended to some extent with an ongoing IFAD NRM loan project in the same location (UTNRMP 2013-2020). The GEF Water Fund project is considered an 'off-shoot' of the UTNRMP project as the Water Fund was supposed to ensure sustainability for the UTNRMP. The UTNRMP was accepted as cofinance for the Water Fund project in its submission for GEF-6 CEO endorsement/approval in 2016. But in reverse, the 2018 UTNRMP MTR did not mention GEF, neither as partner nor cofinancier in this project.

There are some linkages between the two projects, but they are limited to knowledge exchange and the coordination of part of the UTNRMP through the Water Fund project. The UTNRMP project is implemented through Government, while the Water Fund relies mainly on CSOs contracted by TNC. The Water Fund has more of an individual farmer approach, while the IFAD project is group- and community-oriented. As of late the two projects are trying to reconcile their different approaches on the ground and better manage their partnership at national level. IFAD has been requesting the two projects to develop joint workplans, avoid duplication, share staff, and work towards taking common approaches.

For the **Southern Rangelands project** interview partners considered FAO, as SFM Drylands Lead Agency, as a good 'gate-keeper', acknowledging they provided sufficient information and guidance, including providing specific platform 'supply-driven' suggestions and convening quarterly meetings. The PPG phase was carried out mostly by IUCN internally, with some feedback from FAO lead and GEFSEC.

FAO has not yet had much contact with the FOLUR Lead Agency on preparing the **Mount Elgon project** document for CEO endorsement as it was delayed.

Transparency

For Kenya, GEF project selection is based on a national portfolio formulation exercise after GEF replenishments clarify priorities. This includes meetings by the national portfolio formulation steering committee, calls for proposals to all GEF Agencies, Ministries, Departments and Agencies (MDAs), and certification of alignment with national priorities, medium-term government plans and strategies, and the MoEF strategic plan. Joint proposals submitted to the Operational Focal Point are also subjected to review by the Ministry's Technical directors as well as technical counterparts of concerned MDAs. The National Portfolio Steering Committee reviews the proposals and submits its recommendations to the Operational Focal Point for final decisions and endorsement. Various interviewees for this report confirmed the transparency of the GEF-7 impact program child project selection. The GEF operational focal point provided leadership and clear criteria, and the multi-agency national steering committee under the Principal Secretary vetted the concepts thoroughly.

Knowledge platforms

For the **Water Fund project,** the Kenya Government and the Water Fund Management participated actively in sharing lessons and best practices during annual RFS knowledge platform meetings and Kenya hosted several of them. The knowledge platform mainly served to raise awareness around the Water Fund model, in addition to bringing knowledge and lessons

learned back to Kenya to inform the project on broader environmental management. The Water Fund project team has worked closely with the FS-IAP hub project communication team to use the platform to showcase the Water Fund model to other African countries. Since the Kenya Water Fund is the first of its kind in Africa, Kenya received visiting delegations from Gabon, South Africa, and Uganda, contributing to South-South learning opportunities. Kenya also made presentations at the World Water Forum, in monthly newsletters etc. They had a GEF expanded workshop with delegates from 14 constituency countries in early 2020 and are also leveraging social media (Twitter, Instagram, Facebook) as an outreach tool. 'World-water week' was an example of positive outreach.

The Water Fund project also has built its own local knowledge network, linking the Fund to the field. An SMS platform works to share relevant messages and weather information and serves as an educational tool on a range of topics such as the distribution and planting of tree seedlings. Online information centers were established at national and county levels. The SMS platform also offered a useful alternative for the project to distribute project materials and key conservation messages during the halt of many field activities in March 2020 due to COVID (PIR 2020).

For the **Southern Rangelands project,** the SFM impact program Drylands knowledge platform is only in the design phase, but IUCN has already begun working with impact program partners to define baseline information for the child projects and invited them to form a community of practice. Currently this process is led by FAO in Asia, but it is expected that there will be a regional cluster hub in Nairobi at some point (possibly managed through IUCN). In future, the Southern Rangelands project expects to achieve greater impact through cooperative efforts, planning, policies and partnership with other SFM Drylands program countries. Dedicated child project resources have been allocated for participation in knowledge sharing and learning events, capture and development of knowledge products for contribution to SFM Drylands program partners and the wider community, and participation in relevant communities of practice. Tailored briefs and other informational products for policymakers and stakeholders will be produced and disseminated so that SFM Drylands program progress can serve as a model for replication and scaling up in other landscapes across Kenya and beyond. In addition, the Kenya IUCN led child project expects to benefit from relevant technical and capacity development support provided by the global child project.

Program results

The latest supervision mission of the **Water Fund project** in September 2020 gives a good overview on up-to-date program results and achievements, as well as some remaining challenges for child project results. The field visit by the Evaluation team in Murang'a county confirmed in many ways the findings from the review of project documents and from interviews and comments by reviewers (see box below). At the same time, visiting only one of four target counties due to COVID circumstances limited the representativity and field observations of the full range of project activities.

The 2020 supervision report does not provide a summary rating for impact program and DO (as in PIRs) but there are detailed ratings for key evaluation criteria and project management. Climate change adaptation, beneficiary participation, exit strategy and potential for scaling up were all seen as satisfactory (5), the latter mainly on the merits of the Water Fund model. Project effectiveness, responsiveness of service providers, and targeting were rated moderately satisfactory (4), and so was project management. Gender and M&E were upgraded from moderately unsatisfactory in the MTR 2019 to moderately satisfactory (4).

Achieving results for farm smallholders and ecosystems

In terms of direct benefits of smallholder farmers and enhanced ecosystem services in the watersheds, the project is working with 23,218 farmers on promoting SLM measures (IFAD 2020 Supervision Report). Many project outputs are close to those targeted, some have already been overachieved, although several implementation partners were not able to implement all field activities in 2020 due to the COVID-19 environment. There are now 8,297 households with water pans (68% of PDR target) and 115 with biogas installations (115%). Only drip irrigation is far below targets, with only 219 farmers (or 9.5% of target) using this technology, which many farmers regard as costly and maintenance intensive. UTNWFP partnered with Murang'a county to plant one million Hass avocado seedlings over two years on a 50:50 cost sharing basis with farmers, supported through county extension.

The project is also making good progress in adapting to climate change through the planting of more than 3.3 million tree seedlings (372% of target),[13] with a commendable survival rate of 78%; the upgrading of 28 river gauging stations (109%); and the establishment of 12 tree nurseries (400**%**). In addition, 68 hectares of public forests have been rehabilitated (or 85% of PDR target). Road shoulders were stabilized with Bracharia grass along 7.0 kms of the Mununga-Ngonda road.

A total of 295 kilometers of riparian land covering 960 hectares has been conserved using giant bamboo, Napier grass, and indigenous water friendly trees. The reason farmers are taking up bamboo is because of high market demand. Increasingly bamboo is being used for varying uses including furniture making, toothpicks making, paper making etc. This demonstrates the need to link conservation goals with economic benefits for farmers as an incentive for farmers to undertake conservation measures on riparian land.

The areas of the Water Fund project are targeted by a number of other development initiatives and partners, past and present, sometimes with similar activities. The Water Fund project demands that implementing partners record activities financed by the Water Fund separately and that all its farmers and field activities are geo-referenced and reported in DHIS2 to assure attribution of activities to the project.

[13] It is not fully clear whether the 1 million avocado seedlings planted in Murang'a county are included in this figure.

Value chains

Linking farmers more effectively to value chains is part of the main planned outcomes of the Water Fund project. Several of the targeted counties, such as Murang'a, are already actively promoting various value chains, such as for avocados, dairy, tea, coffee, and bananas. For some of these commodities this includes policies and legislative interventions on regulating production, harvesting, aggregation, grading, and marketing to safeguard farmers and products. The Water Fund project supports the counties and acts as a trusted convenor to bring several parties together and demonstrate the potential to catalyze these value chains for conservation work. This includes, for instance, Frigoken for green beans, Green Pot Enterprises for bamboo value chains, and Horizon Business Ventures for piloting commercial farming of Rose Geranium for essential oils.

The Water Fund project is not related in any way with Kakuzi Company Ltd. in Murang'a county that has generated much international controversy in recent months due to alleged human rights abuses on its avocado plantations. The affected area is outside the Water Fund project's geography. In contrast, the project is working with the county governments to train and empower farmers on contract management and negotiation and some basics on their rights. It is also linking farmers with institutions such as the Kenya Horticulture Council (KHC), which lobbies for better working environments, contracts, farmers rights and safeguarding issues.

Remaining challenges

There is still too little information on how many farmers have effectively adopted the three core SLM technologies promoted by the project on terracing, agroforestry and grass strips (2020 IFAD Supervision Report). This would be a way for the project to better justify its outreach figures according to SLM measures being practiced. It would also allow to classify farmers according to the number of SLM measures adopted, the indicator on which a farmer graduation model should be based.

More detailed adoption data would also help to confirm that a landscape approach is taken by the project with wide participation of households in target catchment areas. The fact that project intervention activities are demand driven creates the risk that the project is not able to create a critical mass of actors in targeted geographical areas and communities that result in desired conservation outcomes (MTR). The MTR had suggested that the approach of individual farmers as entry points in the Water Fund project compared with targeting communities and landscapes should be reviewed, also in terms of bringing the targeting approach more in line with the parallel executed IFAD project (UTNRMP).

The PMU of the Water Fund project stressed the complexity of the work that not only collaborates with different categories of individual farmers, their communities, and the private sector to bring about transformation, but also works simultaneously at the ecosystem level of the watershed and the national level through the governance of the Endowment Fund itself.

Findings from a field visit in Murang'a County

The evaluation team's Nairobi-based consultant conducted a site visit in Murang'a country. Meetings were held with the **Murang'a County Executive Committee (CEC)** for Agriculture, County and CSO staff. The CEC Agriculture (County Minister) is also a member of the County Advisory Committee of the Water Fund project.

The county government has seconded a project officer (extension worker) to the project working closely with TNC and the CSO Caritas to implement the project in the field.

The specific contribution of the GEF project is not always clear in the field. Multiple donor projects address similar agendas in the County, all working towards the objectives and targets of the **County Integrated Development Plan (CIDP)**, such as the French beans value chain programme (Sweden), the water pan and the avocado value chain project by the National Agricultural and Rural Inclusive Growth Project (NARIGP) funded by the World Bank, and the national fertilizer supply project. Whether separate records for similar activities are kept for different projects was not directly evident during the field visit.

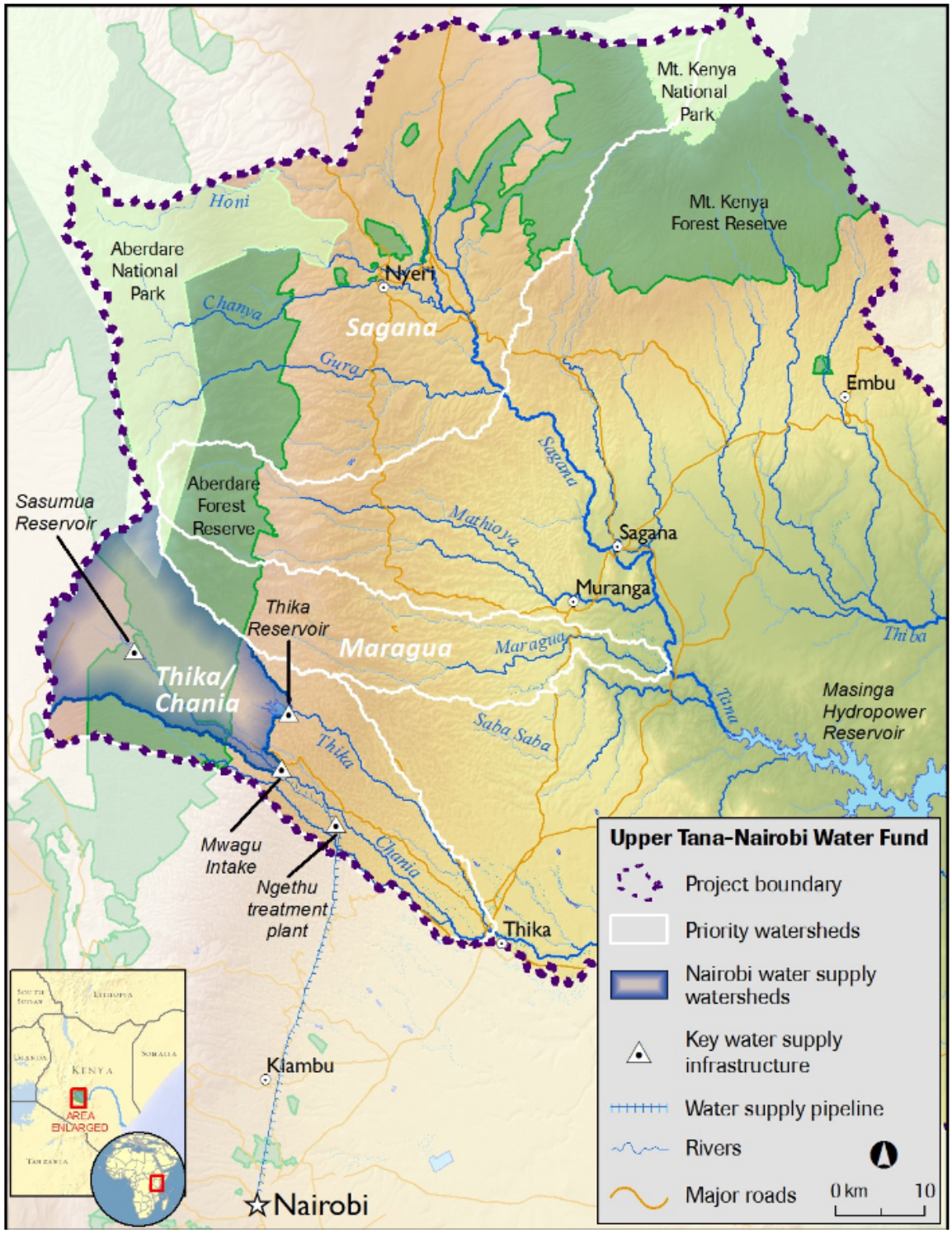
Popular activities include water pans (ponds) fed partly by water harvesting from roads, diversifying into crops such as upland arrow-roots, avocado, and macadamias, establishing kitchen gardens and some fish-farming. Main benefits arise from farming around the year and crop diversification. Suggested construction of check dams to prevent siltation and drip irrigation have been less adopted, partly due to their high costs of installation and difficult maintenance.

A number of **national NRM policies** are currently being discussed and adapted in Murang'a county with community participation, including on the management of riparian and wetlands areas, invasive plant species, rural roads and storm water and mining and quarries.

Gender. According to national law, at least 1/3 of all activities and positions are reserved for women. Measures are taken to facilitate participation of women in meetings (organizing them close to their homes, timing of meetings etc.). Kitchen gardens are seen to have the largest positive benefits for women, in terms of nutrition, less diseases, and increased incomes that enable households to pay school fees for their children.

Most **private sector** engagement at county level is in market services, such as for avocado and macadamia, often in contract farming arrangements. The county government tries to enhance access to markets and private services through rural transport and better roads. The county government is not concerned with private sector contributions to the Water Fund.

Individual and community orientation. The field visit confirmed the observation of the MTR that the GEF project, at least in Murang'a county, is more oriented towards support of individual farmers and


Mt. Kenya National Park
Mt. Kenya Forest Reserve
Honi
Aberdare National Park
Nyeri
Chanya
Sagana
Gura
Embu
Sagana
Aberdare Forest Reserve
Sasumua Reservoir
Mathioya
Sagana
Muranga
Thika Reservoir
Maragua
Maragua
Thiba
Thika/ Chania
Masinga Hydropower Reservoir
Saba Saba
Tana
Thika
Mwagu Intake
Ngethu treatment plant
Chania
Thika
Kiambu
Nairobi
KENYA
AREA ENLARGED
Upper Tana-Nairobi Water Fund
Project boundary
Priority watersheds
Nairobi water supply watersheds
Key water supply infrastructure
Water supply pipeline
Rivers
Major roads
0 km
10

*

Summary of Findings

Relevance and coherence

Relevance of design by all three integrated projects in Kenya is ensured through the Government's strong objective of conserving 'water towers' (Water Fund and Mount Elgon projects) and through support to the Kenya's commitment to 5.1 million hectares of land being restored under the Bonn challenge with AFR100 (Southern Rangelands project). The **comparative advantage** of GEF and the integrated program approach rests primarily in its catalytic and thematically challenging interventions, particularly around market linkages, private sector, and environmental governance.

The three Kenya IAP/impact program projects address objectives of the Conventions on land degradation, biodiversity and climate change and mirror the components and major goals of the overarching IAP/impact program programs (**coherence**). They are **innovative** in terms of introducing modern environmental water flow measurement techniques and SMS and social media communication platforms with service providers and beneficiaries (Water Fund), private sector fundraising for eco-system service payments (Water Fund), and linking marketing premium prices to demonstrated participation and results in SLM (Southern Rangelands).

The **monitoring and evaluation** system has taken time to operationalize in the Water Fund project but capturing all relevant metrics and tracking of beneficiaries through the DHIS2 on-line system has shown much progress in recent years. Hydrological data is measured upstream and downstream, including water quality and flow, with control and treatment sites. The Water Fund project completed baselines for targeted GEB early on but has only had limited success in systematically tracking GEB progress against baselines so far, partly due to COVID-19 delays.

The strongest contribution to **environmental governance** is the Water Fund Endowment model, the financial pillar of sustainable governance that collects private sector contributions downstream from water users to protect the watershed upstream in catchment areas.

All GEF integrated projects also contribute significantly to devolution of responsibilities and operations to Kenya's **counties** (equivalent to districts) through new ways of farmer and community support for environmental governance at the sub-national level and collaboration with County administrations. This includes **policy dialogue** during which counties took the lead to produce White Papers on riparian land management, invasive plants, quarries management, and use of road water for three counties.

Grassroots ownership is promoted through community institutions such as community wildlife conservancies, community forest associations and livestock producer organizations (Southern Rangelands) and promoting traditional models of community governance without too much Government interference (Mount Elgon). These activities aim for **security of community ownership and sustainable resource governance** through supporting the rights of local people to access, manage, use, and enjoy the goods and services generated by ecosystems and landscapes.

Cross-cutting issues

40 percent of project beneficiaries in the **Water Fund project** are women. They were empowered among others through producing horticultural crops more effectively with the help of water pans and provision of fruit seedlings (such as avocado), as well as through a 50% subsidy on all materials to target women-led households for drip kits and biogas. A refresher training on gender mainstreaming and a Women's Empowerment in Agriculture Index (WEAI) survey are planned for the future.

There is still not much information so far on the links between conservation, agriculture production and productivity, and farmers' livelihoods and **resilience**, as the planned impact survey for the MTR was postponed. The RAPTA approach was mainly applied for design, less for implementation. There is limited consensus on how to understand and apply the resilience concept.

Targets for **private sector** participation were only partly reached in the Water Fund project. Private sector capitalization of the Endowment Fund falls short of targets, due to the lack of a convincing business case and companies' short-term interests and alternative mandatory payments for conservation. The latest project supervision mission recommends more resource mobilization from public sector and international sources.

Program governance

The Water Fund project started up **efficiently** - it was among the first of the child projects being launched in the FS-IAP. The MTR was carried out by IFAD on time (August 2019) and provides comprehensive information and well justified judgements. The Southern Rangelands project was designed on time, but resources for design (US$150,000) were considered borderline for an integrated project that involved international experts and incremental COVID-19 expenses that were ultimately covered by IUCN. In terms of **lead agencies,** The Water Fund project has had close and mutually supportive interactions with IFAD and the FS-IAP hub. FAO is considered as a good "gate-keeper" as SFM Drylands Lead Agency, providing sufficient advance information and guidance, platform 'supply-driven' suggestions, and quarterly meetings. The **transparency** of child project selection follows a well-established and known process of a national portfolio management exercise after priority setting of GEF replenishments and calls for proposals and their vetting by a multi-agency national steering committee under the PS.

Knowledge platforms

For the Water Fund project, the Kenya Government and the Water Fund Management actively participated in sharing lessons and best practices during annual RFS knowledge platform meetings and Kenya hosted several of them. Kenya's advantage is its physical closeness to the hub management agency, ICRAF, that is based in Nairobi. The knowledge platform mainly served to raise awareness around the Water Fund model rather than to bring lessons learned and knowledge back to Kenya to inform the project or broader environmental management. A local knowledge platform established by the Water Fund project turned out as a reasonable

alternative to distribute project materials and key conservation messages during the halt of many field activities in March 2020 due to COVID.

The two projects under design have allocated dedicated child project resources to their respective knowledge platforms. In the Southern Rangelands project IUCN has already been working with impact program partners to define baseline information for the child projects and inviting them to form a community of practice.

Progress towards results of the IAP child project

The project is already achieving multiple direct benefits for 23,218 farmers through promoting SLM and water conservation measures, linkages to value chains and adapting to climate change. Many project outputs are close to those targeted, some have already been overachieved. All project activities are separately recorded, geo-referenced and reported to assure their attribution to the project.

It would be helpful if there was more information on how many farmers effectively adopted the three core SLM technologies promoted by the project on terracing, agroforestry and grass strips. This would allow the project to better justify its farmer outreach figures, to develop a farmer graduation model according to the number of SLM measures adopted, and to underpin the intended landscape approach with wide participation of households in target catchment areas.

Planned interactions with a cofinanced IFAD project have been slow to materialize so far, partly as extension models and coverage areas of both projects are different. This limits GEF scaling-up and sustainability effects.

Evolution of GEF integrated approach

The impact program Integrated Program framework as driver for change. The main impetus for evolution of the GEF integrated approach in GEF-7 reportedly came from changes and requirements of the FOLUR and SFM dryland impact program programs themselves, compared with those in the IAP, and the way they were communicated by the Lead Agencies and the GEF Secretariat. Most of these changes were appreciated and readily picked up by design teams, such as their increased focus on markets and value chains, environmental governance at grassroots, and linking child projects more closely and with financial budget lines to the knowledge platform. The concept of value chains and value addition are well established in the country which allows them to be well integrated in the GEF child projects.

Continuity and learning in Kenya. Yet, the latest integrated GEF impact program child projects in Kenya also include lessons and experiences from the Kenya IAP child project. For instance, the FAO Mount Elgon project design team made contact with the IAP Water Fund project which they considered as a good baseline for working in a Kenya “water tower.” impact program child project design also internalized many lessons from past and ongoing non-IAP GEF projects in Kenya as many Agency and Government staff and consultants involved in impact program design have a long history of GEF project management across several GEF replenishment

periods. There is some evidence that specific country experiences by the IAP child project on managing complexities and operational strategies of its multisector and holistic approach were incorporated and mitigated in the impact program projects. During the Ministry's Technical Directors meeting and review of submitted proposals all GEF Agencies were present. The GEF OFP provided clear policy guidance and emphasized the need for cross-learning between the IAP and impact program projects, and for incorporating experiences and lessons learnt, building synergies and avoiding overlaps.

Replication of the GEF-6 Water Fund model in Kenya. The Water Fund project is already being replicated in another location in Kenya (Eldoret-Iten), partly with GEF-7 funds and with contributions by other donors, but not as an impact program child project.

Appendices

Appendix 1 – List of interviews

Name	Role/Organization	Interview Date
Agnes Yobterik	MoEF, Director for Programmes, Projects and Strategic Initiatives/GEF Desk Officer (as authorized by the GEF OFP)	Dec. 16, 2020
Edith Kirumba	IFAD Environment and Climate Programme Officer – Eastern and Southern Africa Region, Water Fund project (UTNWFP)	Dec. 22, 2020
Anthony Kariuki	Project Manager Water Fund project (UTNWFP)	Dec. 10, 2020
Loice Abende	M&E officer UNTWFP	Dec. 10, 2020
Charles Oluchina	IUCN Regional Coordinator East and Southern Africa and Coordinating task manager for Kenya SFM Drylands child project design	Dec. 9, 2020
Philip Kisoyan	FAO Natural Resources' Governance Sub-Programme Leader	Dec. 9, 2020
Meshack Muga	FAO National Project Coordinator	Dec. 9, 2020
Patrick Mugi	FAO M&E officer	Dec. 9, 2020
Roger White	Advisor to Water Fund through Danish Embassy	Dec. 15, 2020
Edward Mungai	Kenya Climate Innovation Center (KCIC)	Feb. 2, 2021

Field visit, January 12, 2021

(Due to COVID-19 only one of four Counties was visited)

Venue: County Government Murang'a - Kenol Office

1. Albert Mwaniki – County Executive Committee, Agriculture
2. Stephen Waweru - UTNWFP Officers, Caritas Development Organization
3. Virginia Kinyanjui - Agriculture Field Officer, Murang'a County Government
4. Lucy Njigua – Consultant, ICF

Interview with farmers:

Venue: Ichagaki and Genda wards, Maragua sub- county, Murang'a County.

1. Joseph Muturi
2. Benson Kangara

3. Purity Wangechi

Closing meeting participants (April 7, 2021)

Name	Role/Organization
Agnes Yobterik	MoEF, Director for Programmes, Projects and Strategic Initiatives/GEF Desk Officer (as authorized by the GEF OFP)
Florence Mugi	MoEF
Alfaxad Omwenga	MoEF
Peterson Kamau	MoEF
Edith Kirumba	IFAD Environment and Climate Programme Officer – Eastern and Southern Africa Region, Water Fund project (UTNWFP)
Anthony Kariuki	Project Manager Water Fund project (UTNWFP)
Fredrick Kihara	TNC Africa Water Fund Advisor
Charles Oluchina	IUCN Regional Coordinator East and Southern Africa and Coordinating task manager for Kenya SFM Drylands child project design
Philip Kisoyan	FAO Natural Resources' Governance Sub-Programme Leader
Carlo Carugi	GEF Independent Evaluation Office, Senior Evaluation Officer and IAP/impact program Evaluation of Integrated Approach Task Manager
Detlev Puetz	Independent International Consultant, Team Leader for Kenya case study
Lucy Njigua	Independent Local Consultant, Kenya case study

Appendix 2 – References

IFAD. 2016. Establishment of the Upper Tana-Nairobi Water Fund (UTNWF). GEF-6 Request for project endorsement/approval. GEF project ID: 9139.

IFAD. (n.d). Upper Tana-Nairobi Water Fund (UTNWF). Detailed design report. East and Southern Africa Division. Programme Management Department. Rome, Italy

IFAD. 2019. Upper Tana Nairobi Water Fund Project. Kenya. Mid Term Review. Date of mission: 19-28th August 2019. IFAD Eastern and Southern Africa Division, Programme Management Department.

IFAD. 2020. Upper Tana Nairobi Water Fund Project. Supervision Report. Mission dates: 28 August - 4 September, 2019. IFAD Eastern and Southern Africa Division, Programme Management Department.

IFAD. 2020. GEF Fiscal Year 2020. Project Implementation Report (PIR) – GEF Project grants. Establishment of Upper Tana Nairobi Water Fund.

IUCN. Strengthening forest management for improved biodiversity conservation and climate resilience in the Southern rangelands of Kenya. GEF-7 Child Project Concept. Program: impact program SFM Drylands.

IUCN. 2020. “Strengthening forest management for improved biodiversity conservation and climate resilience in the southern rangelands of Kenya”. Project Document. Draft version accessed December 2020.

FAO. Integrate Landscape Management for conservation and restoration of the Mt. Elgon Ecosystem in Western Kenya. GEF-7 Child Project Concept. Program: impact program FOLUR.

TNC. 2020. Presentation on TNC Water Fund in Kenya. Nairobi, February 2020.

Leisher, Craig, Justus Makau, Fred Kihara et al. 2016/17. Upper Tana-Nairobi Water Fund. Monitoring and Evaluation Plan.

Appendix 3 – Kenya GEF-6 IAP and GEF-7 impact program - GEF resources by focal areas and GEBs by core indicators

GEF ID	Project	GEF financing by focal areas *(project financing only)*					GEB achieved (A) and targeted (T) by GEF-7 core indicators				
		CC	*LD*	*BD*	*Other*	*Set-aside*	*#3**	*#4**	*#6**	*Other*	*#10**
		US$ million					*'000 ha*	*'000 ha*	*mtCO2e million*		*No. '000*
9139	FS-IAP: Upper Tana Nairobi Water Fund Project (UTNWFP)	0.90	1.80	0.90	-	3.60	A: 0.20 T: 0.0	A: 16.91 T: 1000 ***	A: 5.7** T: 1.6	-	A: 23,218 T: 21,000 ****
10292	SFM impact program drylands: Strengthening forest management for improved biodiversity conservation and climate resilience in the Southern rangelands of Kenya	0.45	0.89	2.23	-	1.78	T: 400	T: 200	T: 1.50	-	A: 200 (36% women)
10598	FOLUR impact program: Integrated landscape management for conservation and restoration of the Mt. Elgon Ecosystem in Western Kenya	-	1.34	2.18	-	1.83	T: 10	T: 50	T: 5.4	-	A: 60 (50% women)

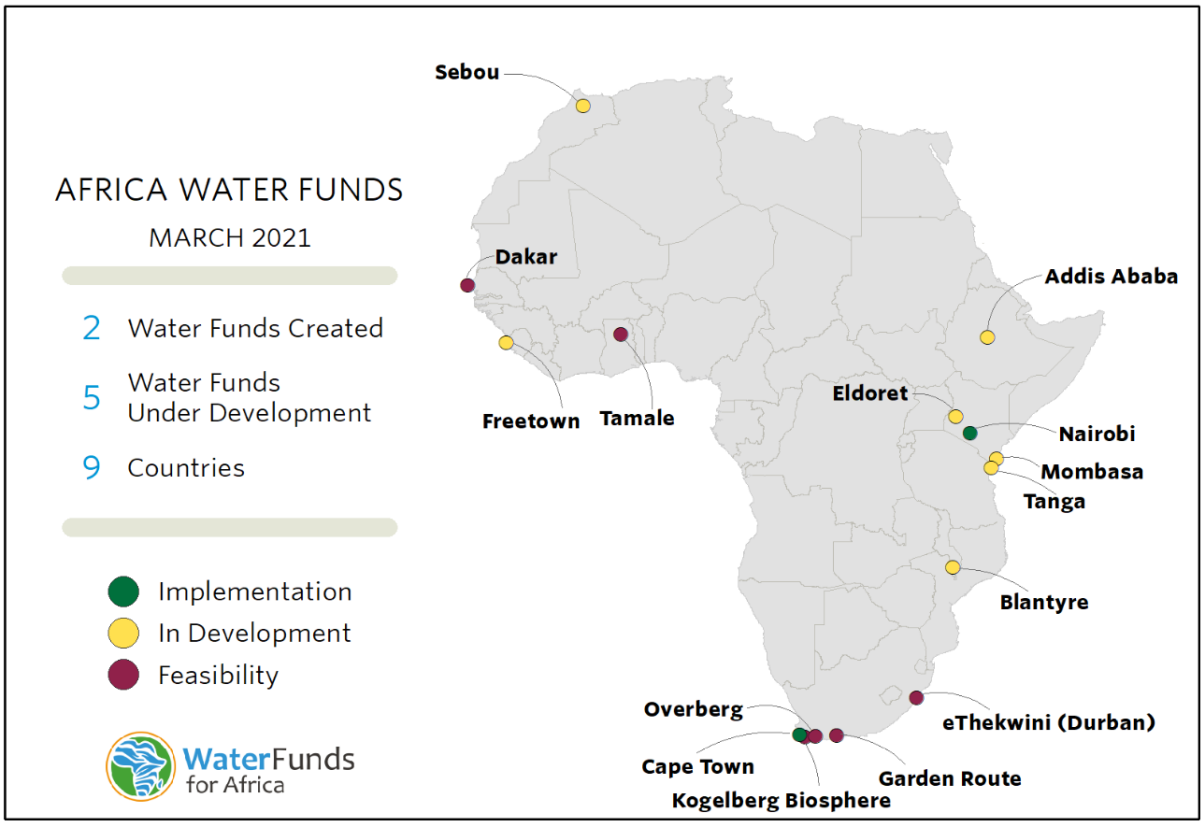
* GEF-7 core indicators: 3 - Area of land restored, hectares; 4: Landscapes under improved practices, hectares; 6: Greenhouse gas emissions mitigated (metric tons of CO2e); 11: Number of direct beneficiaries disaggregated by gender (% women) as co-benefit of GEF investment

** This is a preliminary estimate reported for the project period 2016-2022 in the 2020 PIR that still needs to be validated by FAO and IFAD.

*** This target figure is from the GEF-6 Request for project endorsement approval document; the IFAD project design report targeted 100,000 ha of land on which SLM would be implemented and 663,000 ha of land 'influenced to adopt SLM practices' (IFAD Detailed design report p.16, Table 1). The large discrepancy between planned and targeted area is because achieved outcomes did not include those of an ongoing IFAD cofinance project, partly due to changes in indicator definitions or their understanding.

**** MTR target of 8400 and project target of 21,000 households.

Appendix 4 – Africa Water Funds



Source: The Nature Conservancy

CHINA Country Case Study Report

Introduction

This China Case Study is part of the broader Formative Evaluation of the GEF Integrated Approach to Address the Drivers of Environmental Degradation and provides a deeper understanding of the design, process, and current results of the GEF-6 Integrated Approach Pilot (IAP) and of the design of the GEF-7 Impact Program (impact program) in China. It was designed to assess the similarities and differences between the IAP and impact program child projects and to understand how the GEF integrated approach has evolved from the GEF-6 to GEF-7 financing cycles in China.

China has a total of three child projects under the following programs: Sustainable Cities IAP (SC- IAP); Sustainable Cities impact program (SC-impact program); and Food Systems, Land Use and Restoration Impact Program (FOLUR) impact program. While the Sustainable Cities program in China is in its second iteration, FOLUR has been prepared for the first time. The case study covers all three IAP and impact program child projects, as shown in the table below.

China GEF-6 IAP and GEF-7 impact program – Key project information

GEF ID	Child project title and main scope	Coverage	GEF Agency	Status	Finance		
					GEF grant	**Co-finance**	**Sources of Cofinance**
					US$ million		
Sustainable Cities IAP							
9223	Transit Oriented Development, integrated urban planning	Tianjin, Beijing Shijiazhuang Nanchang Shenzhen Ningbo Guiyang + MOHURD	World Bank	On-going	35.6	2,550	WB loan, central and local govts.
Sustainable Cities impact program							
TBD	Biodiversity conservation and NBS in urban areas	Chongqing Chengdu Ningbo + CCUD	World Bank	Under preparation	29.0	396	WB, ADB loans, central and local govts.
FOLUR impact program							

GEF ID	Child project title and main scope	Coverage	GEF Agency	Status	Finance		
					GEF grant	**Co-finance**	**Sources of Cofinance**
					US$ million		
10246	Innovative transformation of China's food production systems and	*Sub-project 1:* Shandong, Jiangsu, Jiangxi and Guizhou provinces	FAO (Lead)	Submitted for CEO endorsement	7.18	56.50	Govt., Private sector
	agri-ecological landscapes towards sustainability	*Sub-project 2:* Hubei province	World Bank		6.30	346.00	WB loan, Govt., Private sector

Due to continued travel restrictions and safety considerations as a result of the ongoing COVID-19 pandemic, the China case study was conducted remotely by two senior international consultants and a Beijing-based national consultant. The team triangulated its documentation review (including GEF PIR and MTR reports, World Bank PAD and ICR reports, and FAO project documents) with individual interviews with 22 staff from the Government of China, GEF Agencies, municipal departments, and project staff. Seventeen of these interviews were conducted in Chinese by the national consultant. Given the current COVID-19 pandemic, no field verification could take place.

GEF ID 9223: Sustainable Cities IAP – China Child Project

The project was submitted by the World Bank for CEO Approval in November 2016. The grant became effective in December 2017 and the project closing date is set for March 31, 2023. The grant of US$35.6m to this child project was by far the largest under the SC-IAP. 28% of its financing came from the Sustainable Cities Trust Fund, with the remaining balance from the Climate Change Focal Area (CCM-2, Program 3). The global environmental benefit (GEB) pursued is the abatement of 62 MMT of CO2e emissions. This represents 62 percent of program-wide emission abatement goals of 100 MMT CO2e, as the other ten child project combined aim at abating a total of 38 MMT CO2e. The implementation of the GEF grant is co-managed by an Urban Development Specialist and an Operations Specialist in the World Bank's China office in Beijing.

The project pursues the following objective: "To promote integrated planning and investments related to urban sustainability that result in environmental, social and economic benefits at the local and global scale". This objective is to be achieved via the implementation of two components: 1) National TOD Platform, Toolkit, and Policy Support, with the Ministry of

Housing and Urban Development as its national partner and executing agency; ; and 2) City Level Transit Oriented Development (TOD) technical assistance and pilot, with seven recipients cities: Tianjin, Beijing, Shijiazhuang, Nanchang, Shenzhen, Ningbo, and Guiyang, represented by their local governments; each city is responsible for the project activities in its jurisdiction. The grant is allocated between the two components each receiving six and 94 percent of the funds respectively.

The TOD urban planning concept is based on the concentration of residential and commercial development around transit lines, enabling pedestrian and other non-motorized access to the rail stations, thus reducing the use of individual cars and related local pollution and GHG emissions. TOD also favors density and compact urban form, via neighborhoods that integrate residential and service functions. TOD counteracts car-dependent urban sprawl and contributes to more sustainable and less carbon-intensive urbanization.

Two of the project cities, Nanchang and Tianjin, were already recipients of World Bank urban transport loans at the time of CEO endorsement: the "Nanchang Urban Rail project", for US$180million, and the "Tianjin urban transport improvement project" for US$100 million. These amounts were to be complemented respectively by US$680 million and US$124 million of central and local government financing. Thus, a total of over US$1billion was reported as the cofinancing of the GEF grant for investments in those two cities. However, at project closing in December 2020, the World Bank loan for Nanchang had increased to US$250 million and the related government financing had increased to US$2.3 billion.

GEF ID TBD: China Sustainable Cities Impact Program

This child project is currently under preparation and expected to be submitted for CEO Approval in April 2021. The national partner is the China Center for Urban Development (CCUD) and the cities of Chongqing, Chengdu and Ningbo are the recipients of the grant activities. The GEBs pursued are biodiversity conservation and climate change mitigation, as measured through number of hectares of landscapes under improved practices (excluding protected areas) targeted at 231,222 ha, and the MMT of CO2eq emissions abated targeted at 19.2 MMT (direct) and 65.4 MMT (indirect). The project is being prepared by a Senior Urban Specialist based at World Bank headquarters in Washington D.C., previously based in Beijing.

The objectives of the project are to "Support select cities in developing and implementing green urban strategy by integrating climate change, urban biodiversity, urban natural resource management into the planning and investment process, and to promote global knowledge exchanges on green and carbon-neutral urban development". The project has five components: 1) A comprehensive indicator system to support a sustainable "high quality" urban growth and integrated urban planning; 2) Integrated approach to climate action, biodiversity, and natural resources management to support participating cities and a cluster of cities in implementing green urban development; 3) Piloting net-zero emissions in select project sites and communities, including an integrated approach to urban "cooling", to identify options that can be scaled up; 4) Green financing; and 5) Supporting and engaging more cities through the China Urban Knowledge Platform.

GEF ID 10246: Innovative transformation of China's food production systems and agroecological landscapes

The China FOLUR impact program child project was first submitted for CEO Endorsement in August 2020 and re-submitted after comments from the GEF Secretariat in January 2021.[1] The project consists of two sub-projects that cover five provinces (see Box below). One sub-project is executed in four provinces by the national Ministry of Agriculture and Rural Affairs (MARA) with FAO as the GEF Agency. The other sub-project is executed by the Department of Agriculture of Hubei Province with the World Bank as GEF Agency and cofinancier. The Chinese Government designated FAO as lead agency for this project.

Combining two sub-projects in the China FOLUR impact program child project

As outlined in the FAO proposal, the two sub-projects share the same goal, outcomes, and components. Jointly, they are expected to contribute to the achievement of the targeted global environmental benefits. The FAO-MARA sub-project primarily builds on a baseline of existing investments by public and private sectors in sustainable agriculture technologies, which it aims to scale up and out; the WB-Hubei sub-project additionally builds on an IBRD loan that will enable the target counties in Hubei to make greater investments in innovative technologies.

The two sub-projects have been joined with the aim of having a larger reach and impact to support the project's ambitious goal of transformation of the food production systems and agricultural landscapes in China through an integrated landscape and value chain approach. The FAO-MARA sub-project has a more national reach covering several provinces in different agro-ecological regions, starting from the national level down to the provincial and county level; the WB-Hubei sub-project has a county/provincial focus enabling it to reach a larger coverage and transformation within a single province while also generating lessons and standards that can be applied at national scale.

The FAO-MARA sub-project primarily focuses on the staple crops wheat, maize and rice; while Hubei focuses on rice, livestock and agroforestry.

Of the total GEF grant of US$13.46 million, US$7.18 million was allocated to the FAO-MARA sub-project and US$6.28 million to the World Bank-Hubei sub-project. 33.3% of GEF financing comes from the FOLUR Trust Fund (incentive funds), 33.3% from the Climate Change Focal Area, 26.7% from the Biodiversity Focal Area, and 6.7% from the Land Degradation Focal Area.

The objectives of the project are to "Support the innovative transformation of China's agro-landscapes and agri-food value chains towards environmental and ecological sustainability at scale in support of the 2030 Sustainable Development Goals (SDGs), Rural Revitalization, and

[1] The project was circulated for Council comments on Feb. 1, 2021.

climate resilience". The project has four components: 1) Integrated landscape management (ILM) systems in agricultural landscapes; 2) Sustainable food production practices and responsible agri-food value chains for the staple crops of rice wheat and maize, selected cash crops and livestock; 3) Conservation and restoration of agroecosystems and biodiversity; and 4) Knowledge management and M&E.

The GEBs pursued by the child project are related to biodiversity, climate change, and land degradation. The core indicators are the number of hectares of land restored (100,000 ha), landscapes under improved practices estimated at 970,000 ha, and the MMT of CO_2e emissions mitigated, estimated at 13.3 $MMTCO_2e$ (direct) and 6.86 $MMTCO_2e$ (indirect). The majority of GHG emission reductions are expected from the World Bank-Hubei sub-project (14.14 $MMTCO_2e$). The number of targeted direct beneficiaries are 550,000, 43.6% of whom are women.

Findings

The two sub-projects in the China FOLUR Child Project have separate GEF and Executing Agencies, steering committees, and management offices. They operate in different provinces, so their interaction will be assured through a joint Technical Advisory and Coordination Committee (TACC), cochaired by the two Executing Agencies (MARA and Hubei Provincial DARA) to oversee implementation and foster coherence (CEO endorsement request [ER]). The Committee also functions as an intermediary for inter-disciplinary technical guidance and developing national policies and strategies for scaling.

Findings are presented first for the Sustainable Cities IAP and impact program in China, followed by findings for the FOLUR impact program.

Sustainable Cities

Relevance of Design

The alignment of the Sustainable Cities child projects under both GEF-6 and GEF-7 with national and local priorities, as well as Convention objectives, is confirmed through this case study. There is strong alignment between the locally relevant project goals pursued at the city level with the ones of emerging national policies related to innovative urban design, compact urban form, and transit-oriented development (SC-IAP) as well as national policies pertaining to biodiversity conservation and nature-based solutions for urban environmental management (SC-impact program). These emerging national-level policies also align with China's international ambitions to respond to its commitments under the Paris Agreement and promote biodiversity conservation. These will be the themes of the Convention on Biological Diversity (CBD) COP15 to be held in Kunming, China, in May 2021 and of the Glasgow UNFCCC COP26 in November 2021.

Country incentives and motivation to participate in the GEF-7 program are reinforced by the Chinese government commitment to align national programs with the two related multilateral environmental agreements, UNFCCC and CBD. China's engagement with the GEF in the

Sustainable Cities projects provides a visible opportunity for international engagement. Central Government directives to provincial authorities, and through those to municipal ones, reflect a long-term vision of low-carbon city development, community livability, biodiversity conservation, and the development of financial and business models to generate green urban infrastructure, all of which are aligned with convention guidance. These principles are also found in China's five-year plans (the main framework for investment decisions) and in the country's long-term vision to 2060 as formulated by the Government. In the words of a city stakeholder:

"The GEF-7 programs fit well with international green development trends, China's 14th Five-Year Plan, 15th Five-Year Plan, and even China's plans for the next 30 years. China has placed a very high priority on ecological green development and has also put forward a vision for the year 2060. So, the GEF-7's emphasis on high-quality development and low-carbon development is perfectly in line with China's national development strategy. From the city side, Chengdu's development must first serve China's development. President Xi Jinping also clearly proposed that Chengdu should build a park city. A park city is not just about building parks, but also about the spatial layout, industrial layout and lifestyle of the city. To build a park city we have to achieve high quality development and low carbon development. So, I think GEF-7 also fits very well with Chengdu's development plan".

National stakeholders confirmed the coherence of the SC-IAP with national policies. The context for the design of the SC-IAP project reflected the concerns of the Ministry of Housing and Urban Development at the time, as it was grappling with constrained land resources in the face of massive urbanization and very large, interconnected metropolitan areas. The concept of Transit-Oriented Development was built around rail transportation as the anchor for better land-use planning and for greater environmental sustainability of urban development. This is of particular relevance for the participating cities, which are also benefiting from very large, related infrastructure investments. Two national policies underpinned project design: the "National New Urbanization Plan" and the "Opinions on Further Strengthening Urban Planning and Construction Management". In the words of another city stakeholder:

"The goal of our project is definitely to address climate change and promote sustainable urban development. Unlike the GEF-7, which is to promote biodiversity conservation and urban environmental improvement, our project is to indirectly promote sustainable urban development by optimizing the spatial and functional layout of the city. We hope that the land use of the city will be more intensive, and the travel of the citizens will be greener, low-carbon, and smart. We will connect different parts of the city with rail transportation in TOD mode to reduce the frequency and distance of the citizens' private car travel, and alleviate the traffic congestion, land waste and heat island effect caused by urban development".

The child projects are also aligned with the World Bank's Country Partnership Framework, which specifies the Chinese development priorities that it will support. The Country Partnership Framework is defined in consultation with the Government and allows for a convergence of investment lending in areas of sustainable urban development with the management of GEF

grants supporting those goals. The World Bank's role in the design of both child projects ensures continuity and consistency with multilateral environmental agreements.

Coherence of Design

GEF additionality and innovation. Project stakeholders recognize the importance of the role played by the GEF in creating and supporting the Sustainable Cities projects in China. In both cases, GEF grants leverage sector investments to ensure the linkage of local and global environmental benefits. Some city representatives involved with the implementation of previous GEF grants clearly recognize the evolution from GEF-5 to GEF-6 and GEF-7, distinctly mentioning the differences between the single-sector approach and the current integrated approach. They noted an appreciation for the synergies the new integrated approach generates. However, the institutional complexity of involving multiple sectors can be taxing and account for longer project preparation, unlike many projects in China which quickly move from design to implementation.

The key innovation of the GEF-6 child project was the identification of TOD as a core concept around which to aggregate all sustainability-related urban planning initiatives. Innovation goes further in the GEF-7 child project by expanding integrated urban planning to incorporate biodiversity conservation and nature-based solutions for the provision of urban services. Both SC-IAP and SC-impact program project designs are also innovative in the Chinese institutional landscape as they are simultaneously based on the participation of: a) a central government agency (MOHURD under GEF-6 and CCUD under GEF-7) in charge of upward linkages with government policies and of nation-wide dissemination of outcomes and lessons learned; and b) a number of cities where TOD, integrated urban planning, biodiversity conservation, and natured-based solutions generate local impacts and offer a demonstration effect at scale.

Stakeholders interviewed clearly recognized that GEF's global environmental agenda fosters innovation and incentivizes national governments to strive for greater environmental sustainability. Stakeholders also praised the role of the World Bank in promoting environmental governance at the local level and ensuring sustainability considerations in project design (for both projects). The long-term engagement of the World Bank in China and in some of the participating cities was acknowledged as a very positive factor, as it ensures continuity of outcomes beyond the limited five-year time-horizons of the individual GEF grants. The synergy of the World Bank's own strategies with GEF policies is also significant, both in the case of the SC-IAP and of the SC-impact program.

Theory of change. The Theory of Change in the SC-IAP Program Framework Document (PFD) is: "The Sustainable Cities IAP seeks to promote the creation and implementation of comprehensive sustainability planning and management initiatives. It will primarily do so by supporting local strategic planning processes and implementation efforts in selected cities and countries. To the maximum extent possible, local challenges addressed by this work—designed to promote improved livability and environmental conditions—will be linked to global challenges, such as climate change, biodiversity, water resources, chemicals and waste, land degradation, and so on". The SC-impact program PFD stated its theory of change much in the

same way: “The SCimpact program’s objective is to support cities in their pursuit of integrated urban planning and implementation that delivers impactful development outcomes with global environmental benefits”.

This pursuit of GEBs combined with local urban sustainability goals, which is the core concept of both programs, is effectively reflected in the design of both SC-IAP and SC-impact program child projects in China and is confirmed by the results of the early implementation of the SC-impact program. Some national and local stakeholders in the participating cities, and especially those who had direct exposure to both child projects, remarked the complementarity of the GEF-6 and GEF-7 goals. As one project stakeholder put it:

“Ningbo’s GEF-6 project is a comprehensive project that focuses on TOD. I think the TOD is the skeleton for the whole city, and the GEF-7 project that we are doing now is more focusing on low-carbon development, which I think may be more like the skeleton and the blood vessels. The skeleton and the blood vessels are inseparable, and the low-carbon content must be combined with the TOD model as well. We will promote low-carbon development based on the TOD ‘skeleton’ framework. Compared to the GEF-6, the GEF-7 is more comprehensive and more complex, which also enhances people’s sense of gain. TOD can change the way people travel and cities develop and can reduce carbon emissions by a significant amount. But carbon emissions need to be calculated to get a figure. The GEF-7, on the other hand, focuses on the ecological environment, which is something that citizens can directly perceive”.

Monitoring and Evaluation. The World Bank PAD of 2016 for the SC-IAP child project does not include the child project’s GHG mitigation targets in its Results Framework but does make assumptions as to the potential GHG abatement that the project could achieve, estimated at 60 MMT CO2eq over 20 years. Coherently with the PAD, the MTR report of 2020 did not include any monitoring of the GHG abatement achieved so far but reports satisfactory results on PDO for all but one intermediate indicators.

For the SC-impact program child project, the following Key Performance Indicators are identified: (i) green-growth indicators identified through the project which support 14th Five Year Plan for select cities and integrated into planning process; (ii) GHG emissions reduced or avoided; (iii) natural capital accounts established for the project areas, and the demonstration of the improved land management and planning; (iv) biodiversity strategy and index established in the project areas and improved land restoration; and (v) knowledge platform established and learning activities conducted, with the engagement of hundreds of cities.

Environmental governance and sustainability. The World Bank applies its own environmental and social safeguards to the GEF child projects it implements as it does to all its loans and credit operations. These are unlikely to vary from the GEF’s own environmental and social safeguard standards. The use of the safeguards has allowed participating cities to become more aware of the potentially negative environmental impacts of some investments and of the multiplicity of stakeholders to be consulted in the design of each action to mitigate them. The on-going design of the SC-impact program entails the engagement of the environment departments of

municipal and provincial governments as its goals are directly related to biodiversity conservation and nature-based solutions in urban management.

Project stakeholders expect that national guidelines on TOD will be issued at the central level as a result of the GEF-6 project, creating a set of norms to be followed by Chinese cities when planning the integration of transit systems and land-use. These guidelines would emerge from the first generation of TOD projects in the cities supported by the GEF grant and would demonstrate significant progress, given that Transit-Oriented Development and the related reorientation of urban planning towards compact urban form and lower GHG emissions was entirely new for Chinese cities before the GEF project. This would be a high-level, long-lasting impact of the SC-IAP child project in China. While this is for the time being a stakeholder expectation, were it to materialize it would generate additional project outcomes.

Cross-cutting Issues

Gender. The SC-IAP child project did not have specific gender objectives at CEO endorsement. The related World Bank PAD approved by its Board stated that "The project design will identify gender benefits of integrating land use and transport planning and explore strategies for mainstreaming gender in TOD planning, design and evaluation". This objective has been led to a specialized consulting firm conducting surveys which addressed behaviors of transit user groups in participating cities, identifying clear distinctions between gender and age groups in terms of how and why they use public transportation. The surveys were built upon to develop a study on the accessibility of public transportation for seniors, people with disabilities, and women, in order to make design improvements to increase participation in public transportation by these groups.

In the case of the SC-impact program, gender targets are clearly spelled out at the PIF stage, with a project core indicator being the "number of direct beneficiaries disaggregated by gender as co-benefit of the GEF investment". This number is stated as 23 million, of which 12.4 million are male and 10.6 million are female. At the current early stage, participating city stakeholders are aware of the project gender goals and point out the high level of female participation in the project teams.

Resilience. The SC-IAP did not include resilience as an expected outcome, given its focus on TOD. However, during project implementation the issue of resilience of transport infrastructure is being considered. Conversely, the SC-impact program has a clearly identified resilience output: City-cluster level green strategy to support integrated solutions to low carbon, resilient development and conservation of natural assets, to be achieved through the implementation of Component 2: Integrated approach to climate action, biodiversity and natural resources management to support participating cities and a cluster of cities in implementing green urban development.

At the national level, CCUD is designing a Platform to disseminate project outcomes throughout China which will include materials and international references on urban resilience. CCUD has worked with the Rockefeller Foundation's "100 Resilient Cities Program" and seems well aware

of the linkages between resilience and nature-based solutions. Addressing urban health issues after the COVID-19 pandemic is considered an important part of enhancing urban resilience. Participating cities, now in the project design phase, seem equally aware and interested in incorporating resilience actions. As one city-level interviewee stated:

> *"We have a pilot project on river basin management, and we will consider resilience in the planning and design of a demonstration area of a river basin plan. We want to design nature-based solutions. In the past, our river management may have been artificially designed landscapes, building on both sides of the river. Now we want to follow a natural solution. In this regard, the World Bank is very keen on the Singapore approach. We also hope to do this well and compare it with previous projects to create a demonstration effect and enhance urban resilience. With the GEF7, we hope to fully integrate water conservation project with NBS, which on the one hand serves to prevent flooding, and on the other hand creates green infrastructure, improves ecosystem services and generates a premium for the surrounding land by enhancing the ecological landscape".*

Private sector participation in the Sustainable Cities child projects is limited, although all national stakeholders endorse the concept of private sector participation. Under SC-IAP, one city is exploring ways to enhance private sector participation in financing TOD and GEF-7's child project preparation is exploring which business model could attract private sector investments around biodiversity conservation and nature-based solutions. Tourism-related real-estate development could perhaps provide investment opportunities around conservation sites of particular aesthetic or recreational value. In both child projects the procurement policy has been to exclude all publicly subsidized entities from the competitive bidding, thus creating market opportunities for private firms to provide professional services.

Program Governance

Internal governance. Project governance of the GEF-6 SC-IAP child project seems robust and in line with the design of the child project since its outset. All interviewed stakeholders referred to the continuity of interactions with the World Bank team and the quality of the support that was provided in the early phases, enabling participating cities to internalize the necessary procedures for procurement and financial management. The technical expertise provided by the World Bank in the design phase is also considered an element that ensured the high quality of project components. The bimonthly supervision missions and meetings with the World Bank team provide for continuity and integration among city components. Each city PMO operates in consultation with a local Steering Committee, the composition of which reflects the participation of the various relevant sector agencies and local government representatives, according to the goals of the integrated approach program.

The World Bank's rigorous management of the project and oversight of the eight PMOs through bimonthly supervision missions of the SC-IAP seems successful. Stakeholders relied on the World Bank to provide the integrative elements of the child project across its components, including the system of reporting indicators, procurement, and financial management guidelines. For some cities, their participation in the Sustainable Cities child projects represents

their first engagement with the World Bank, and they face the steep learning curve of interacting with that institution, which considerably raises the bar of expected performance. Others have already collaborated with the institution in other development projects.

For the GEF-7 SC-impact program child project, the design process has been inclusive, with consultations across many local departments in various sectors. City stakeholders refer to the importance of international expertise that was brought to bear in the design phase, but also the value of the local competencies and how the interplay between the two has added depth to the project design process. It is expected that the internal governance of the SC-impact program is going to benefit from the lessons learned in the design and implementation of the SC-IAP. The on-going preparation of the SC-impact program child project seems fully conducted by the World Bank, with no apparent role of UNEP which is the Lead Agency for the overall SC-impact program program.

Efficiency of startup and impacts of COVID. The Sustainable Cities IAP child project start-up was slow and provides an indication as to the complexity of setting up the implementation of integrated approach programs at the sub-national scale, given the processing of the grant via the multiple institutions involved internationally, nationally, and locally. The project was approved by the World Bank Board of Directors in July 2017 and the grant became effective in December 2017, a full year after submission for GEF CEO Approval.

The August 2020 Mid-Term Review reported on a further slow start-up of the project due to: a) close to a year required for the eight national and local PMOs to sign subsidiary grant agreements with provincial finance departments and to set up designated accounts required for making disbursements; b) a nation-wide government institutional restructuring which started in late 2018, delaying the establishment of Provincial Local Governments and of PMOs in some participating cities; c) unexpected shifts in urban development priorities as compared to those identified at the appraisal stage in some participating cities, given the time that had elapsed since project identification; and d) lack of PMO experience in preparing TORs and selecting qualified bidders, given the technical complexity of the consulting contracts. The first three of these factors are context- related, hence difficult to predict. However, the fourth one could have been foreseen and internalized at project design stage by including specific procurement activities.

The main impacts of COVID-19 on both child projects during 2020 have been: a) a shift to on-line meetings for supervision purposes; b) the cancellation of China travel by international experts who were expected for the implementation of various activities; c) the withdrawal of some international bidders from open tenders for consulting services; and d) the cancellation of an international study tour to the Netherlands, which took one year of preparation, as part of the SC-IAP child project. However, the relatively quick control of the pandemic in China points to the likely resumption of normal activities for the project stakeholders in the near future.

Knowledge Platforms

Knowledge platforms. Knowledge management is central to the design of both SC-IAP and SC-impact program child projects, and coherent with the overall Sustainable Cities program design. Each child project has a component dedicated to the development of a national-scale knowledge platform, to be accessible to a wider audience beyond project participants. For SC-IAP, it is managed by MOHURD, and focuses on TOD and integrated urban planning. For SC-impact program, it is being prepared by CCUD, and will focus on incorporating biodiversity conservation and nature-based solutions into urban planning and development. Project stakeholders look at the platforms as resources to contribute to and to draw from, with a combination of international, national, and local experiences.

This has already been the case for cities participating in SC-IAP, whereby a common set of TOD references can be drawn upon and adapted to the design of specific local project activities. For instance, in the case of Chongqing, the World Bank mobilized an additional Energy Sector Management Assistance Program grant to explore the compact urban form opportunities that TOD offered the city, but the outcomes were shared on the national platform, offering insights to all users. The platforms are expected to be maintained and expanded by the responsible central level agencies (MOHURD and CCUD) after the completion of the GEF grants, ensuring the long-term impacts of the Sustainable Cities program.

The role of the World Bank as the GEF executing agency for the Global Platform for Sustainable Cities as well as for the two China child projects has facilitated the seamless integration of the knowledge generated within the SC-IAP and SC-impact program with the Global Platform for Sustainable Cities (GPSC) in general. It is also notable that the World Bank Task Manager in charge of the GPSC is also responsible for the on-going design and preparation of the GEF-7 child project. This continuity among different components of the Sustainable Cities program and between the GEF-6 and GEF-7, is of high value for their likely impact.

Under GEF-6, PMOs have been active in organizing or joining knowledge sharing events and capacity building activities according to the following formats: a) Global Platform for Sustainable Cities (GPSC) global meetings and city academies; b) technical workshops and training sessions organized by the World Bank task team; c) participation in Tokyo Development Learning Center (TDLC) deep dive learning week; d) study tours organized by the PMOs; and e) webinars organized by the PMOs (especially during COVID-19 outbreak). A total of 39 events were held between September 2017 and August 2020, of which 19 were on-line. According to the MTR results indicators, 4,075 person/days have been invested in training on TOD modules, against the 750 planned.

All such activities have had a positive impact on the level of participation and capacity building of national and local stakeholders in China in the design and implementation of the SC-IAP child project. The GPSC global meetings held in New Delhi (2017), Singapore (2018), and Sao Paulo (2019) offered the opportunity to the Chinese participants to interact with representatives from the other cities and countries involved in the Sustainable Cities program at large, and of learning from each other while comparing different aspects of sustainable urban planning. The study tours to Japan, United States, Germany, Denmark, and Brazil exposed the Chinese stakeholders to successful cases of TOD implementation, including the opportunity to interact

directly with the institutions in charge. It is also significant that by holding technical workshops, training sessions, and webinars involving all participating cities, the SC-IAP created the opportunity for the cities to interact with one another directly rather than to develop their project activities in isolation.

In addition to the learning events listed above, a total of twelve quarterly newsletters as of February 2021, available in both English and Chinese, have been produced by the World Bank team. The purpose of the newsletter is to document project implementation progress, and more importantly, to share TOD-related trends of policy reforms, academic and professional activities, engagement of the private sector, and best practices in China. These newsletters were disseminated among a broader audience through the GPSC platform.

Reporting. Given the consistent and systematic management of the GEF-6 child project by the World Bank, the SC-IAP counts on a set of regular reports. These reports enable the tracking of results indicators at the PDO and project components levels and supported the preparation of a comprehensive MTR report in 2020. There is evidence of coherent program level reporting that integrates the updates and findings from the individual child projects. This is provided by the GPSC, which draws from all of them and allows for horizontal exchanges as well. The May 2020 GPSC progress report is a positive example of this program level reporting.

Progress Towards Results of the IAP child project

At MTR in August 2020, all cumulative target values for the mid-point of implementation had been reached or extensively surpassed, with the exception of the national knowledge platform which had been delayed. The Project Leading Group at MOHURD was only established in June 2019, and the contract for the design and preparation of the platform was awarded to the China Academy of Urban Planning and Design in April 2020. That inception report was completed by June 2020. The knowledge platform will comprise modules such as a TOD database, toolkits for planning and design, regulations and technical standards, best practice examples, a monitoring and evaluation framework, and other associated activities. It is expected to provide an invaluable resource for further integrated urban design work in other Chinese cities going forward.

At MTR, grant disbursement was only at 13.53%. However, the World Bank considers that grant implementation has been on track since early 2019. Of the 21 contracts in the latest procurement plan, 10 have been signed and entered implementation stage, six are at different stages of the procurement process, and the remaining five still need further work to finalize the TORs. Technical packages include city-level, corridor-level, district-level and station-level TOD application studies across all participating cities.

Food Systems, Land Use and Restoration Impact (FOLUR) Program

Relevance of Design

National alignment. China has an ambitious vision for an Ecological Civilization, in accordance with the concept of coordinated development of production, ecology, and life. This is

documented within its 13th Five-Year Plan (2016-2020) and its No. 1 Central Document 2018 on sustainable agricultural development and preserving important ecosystem functions, among others. According to Chinese interview partners the FOLUR child project is fully compatible with the ecological transformation of farmland and restoration of agricultural soil quality advocated by Chinese policy. It also strongly supports commitments by the country's National Plan for Sustainable Development of Agriculture (2015-2030) to treat or use 90% of animal waste, use all crop straw, increase nitrogen fertilizer efficiency by 40%, and equip 75% of all irrigated farmland with water saving technologies (FOLUR child project PIF). The GEF project offers a good platform for interactions with international organizations to learn and exchange experience about policymaking and technology development on these and other related issues.

Comparative advantage, transformational change and Government motivation. For the Chinese counterparts interviewed the relatively small GEF financial contribution was understood as less important than interacting with GEF on developing better awareness, know-how, and conceptual leadership about environmental and climate-change related transformation. GEF concepts are considered very advanced, particularly on carbon emissions and biodiversity, and government officials, farmers, and private sector can learn from them. At the same time, interviewees at the National Ministry of Agriculture and Rural Affairs (MARA) see combining ecological aspects, broader landscape planning, and value-chain/private sector focus with more classical public agricultural support and investments as a major challenge and opportunity brought FOLUR. Entering into partnerships with international and domestic environmental and conservation organizations for this purpose is seen as an innovative development.

When submitting its expression of interest to the FOLUR impact program in 2018/19 the National Ministry of Agriculture and Rural Affairs (MARA) initially was more interested in focusing on rice and fisheries and moving from pilots to scale, including optimizing and reducing chemical fertilizer use. When developing the FAO-MARA sub-project and the joint CEO endorsement request (ER), FAO managed to demonstrate FOLUR's broader strategic approach to the Government, such as a strong focus on international commodity chains, policies and standards, and land use planning. Policy is now seen in the project as the critical lever for the transformation towards green and climate-smart practices in China. China offers a high potential for large-scale impact on GEBs through developing green standards that could be turned into country wide policies, such as the planned certification of 'green' rice or different maize and meat production standards. Since inception, the GEFSEC and FAO were interested to involve China also in the Asia regional Sustainable Rice Landscape Initiative (SRLI)[2] in which GEF,

[2] The Sustainable Rice Landscapes Initiative (SRLI) supports the sustainable production of rice in Southeast Asia from 2020 to assist farmers and supply chains adversely impacted by climate change in the region (The Sustainable Rice Landscapes Initiative (SRLI) (foodandlandusecoalition.org). SRLI is an initiative funded by a consortium of public, private and civil society partners. GEF-7 provides US$25 million through its Food Systems Impact Program for applying the Sustainable Rice Platform (SRP) standard. The FOLUR Global Platform plans to assist such roundtables with Technical Assistance and analysis to improve production practices, cross-platform and regional learning, and development of private-public financing options (FOLUR Global Knowledge to Action Platform child project document, para. 125, 126). The partner organizations involved in the SRLI include the World Business

World Bank, and FAO are participating through the FOLUR platform. Linkages with this initiative will be sought during project implementation. In its final version, the project passed on some cofinancing opportunities mentioned in the earlier concept note.[3] Most activities of the FAO-MARA sub-project will be cofinanced with relatively large contributions from the government, a common feature of GEF projects in China.

The World Bank-Hubei sub-project started in 2018 after the Province won a domestic call by the Ministry of Finance for proposals for a World Bank loan. The Hubei Provincial Government then requested the World Bank add a GEF grant to the loan, even before the launch of FOLUR, since they liked an earlier GEF project in Dongwon province. Eventually, according to interviewees, this move sharpened the full integration of environmental, sustainability, and climate-smart activities into the early loan project proposal that was more agricultural production and food safety focused. Secondly, the Provincial Government was strongly motivated by learning more about GHG emission reduction and carbon sequestration measurement, monitoring and trading. More recently, President Xi's ambitious carbon neutrality targets announced in September 2020 underpinned this interest. Another advantage of GEF in Hubei province is the grant financing of public goods and knowledge products at provincial level, such as for innovative integrated land use planning, forestry/biodiversity, and GEB monitoring. Loan investment funds usually go directly to the counties. GEF mechanisms to link provinces, counties, and national government project in the FOLUR child project were also appreciated for better interactions, exchange and dissemination.

Coherence of Design

Coherence. The sub-projects reflect the FOLUR PFD integrated Theory of Change well. Both sub-projects also address the objectives of and include GEF core indicators related to the UNFCCC, UNCCD, and CBD. The components of the project are fully aligned with the components in the FOLUR impact program Theory of Change, consisting of (1) Integrated landscape management and land use planning (including payment for eco-system services); (2) Improved extension and agricultural practices for reduced fertilizer use and pesticide substitution,[4] focused on rice,

---

Council for Sustainable Development (WBCSD), UN Environment Program (UNEP), UN Food and Agriculture Organization (FAO), Sustainable Rice Platform (SRP), the German Agency for International Cooperation (GIZ) and the International Rice Research Institute (IRRI).

[3] Among others, the FOLUR China PIF considered as cofinance the ADB 'Yangtze River Green Ecological Corridor Comprehensive Agriculture Development Project' which is under preparation, a planned collaboration by the World Bank–Hubei sub-project with the China Development Bank to bring in additional financing for private sector activities supporting the goals of the project, and working with the Ministry of Agriculture National Agricultural Biodiversity Conservation Program that is well funded.

[4] The project document submitted for CEO Endorsement notes that the project will not reduce use of persistent organic pollutants as covered under the Stockholm Convention, and therefore will not contribute to this particular GEB. The "project will, however, contribute to Sub-

wheat and maize, plus value chains; (3) Biodiversity and ecological restoration; and (4) Knowledge management and M&E. The components in the *Hubei Smart and Sustainable Agriculture Project* are organized according to another principle, that of 3S, i.e., climate **s**mart, **s**ustainable, and **s**afe design and implementation, but are mapped against the GEF components in the CEO ER. In substance, the Hubei sub-project covers the various aspects of climate-smart and safe agricultural practices, soil restoration, biodiversity, and emphasizes carbon emissions reduction and value chains. GEF contributions for each component are well described and specified.[5]

Additionality and innovation. For Hubei province representatives, all of the World Bank-Hubei sub-project is considered innovative, since it is strongly oriented toward climate-smart agriculture, sustainability and food safety—actions that had not been done in such an integrated manner before. Several specific GEF-funded knowledge products and concepts are seen by the Province Government as innovative, particularly on integrated landscape planning, GHG reduction/carbon trade, and GEB monitoring.

Green value chains are also a new concept brought in by GEF. For the FAO-MARA sub-project the main innovation and contribution to transformational change lies in the design of new policies and good standards of practice, including those around the change of local industrial policies that guide contributions by private sector enterprises. Additionally, the strong focus of the FOLUR impact program on value chains and sustainable market demand is an innovative idea that the Ministry of Agriculture and Rural Affairs would like to integrate more strongly across all its activities.

Specific technical innovations include the reduced use and discharge of chemical fertilizers and pesticides, through precision agriculture, soil testing, integrated pest management (impact programM), ecological interception systems and digital technologies. (CEO ER, p.50 and output 2.1.3.). The concept of multistakeholder platforms is rather new, due to the strong government presence and leadership. In contrast, land use is already relatively confined in China, which means that innovative integrated land management with a landscape perspective is harder to apply.

Environmental governance. Environmental governance relies heavily on mainstreaming environment in agriculture and provincial governments. There are no special institutional

---

Indicator 9.5, Number of low-chemical/non-chemical systems implemented particularly in food production, manufacturing and cities."

[5] For the World Bank-Hubei sub-project, Component 1 covers agricultural, climate and food safety risk assessments and development of standards ($11.1m WB, $1.94m GEF, plus Government); Component 2 is about scaling-up of smart and sustainable agricultural practices and landscape planning ($137m WB, $3.40m GEF, plus Government); and Component 3 funds project and knowledge management ($1.6m, WB, $0.94m GEF, plus Government). Specific GEF supported activities and financial contributions for each of these components are well specified in the WB PAD.

mechanisms planned so far to ensure participation and decision-making of all parties that have a stake in environmental outcomes, apart from some value chain platforms and food and land use collaboration mechanisms whose nature is yet to be defined in more detail. For Hubei province, the focus is on supporting the Agri-environmental Department in the Hubei Department of Agriculture. Beyond that, some work with Hubei's Ecology and Environment Department is expected. Another project mechanism for environmental governance envisioned in the FOLUR project is the planned coordination mechanism for the two sub-projects led by MARA. This mechanism is intended to allow for nationwide dissemination and scaling up of best practices developed during project implementation. At this early stage, it is not possible to know whether this mechanism would be permanent or only in use for the project duration.

Monitoring & evaluation (M&E) and GEBs. Both FOLUR sub-projects in China have a strong emphasis on enhancing methods and capacities in M&E of GEBs at provincial and national levels. In Hubei province the interest is particularly concentrated on ways to measure GHG emissions avoided through reduced nitrous oxide (N_2O) and methane (CH_4) emissions, and carbon sequestration through improved agronomic practices and increasing biomass in tree crops. Similarly, the FAO-MARA sub-project targets both GHG emissions abatement and carbon sequestration.

Both sub-projects faced challenges of defining and setting targets of GEB outcomes of land coverage. Interviewees stated that MARA considered the originally proposed land coverage indicators and targets to be overly broad, overlapping, overly ambitious, and not well defined. The Ministry also perceived discrepancies in GEF indicators and methodologies as well as those promoted by other international institutions, such as the impact programCC. For instance, GEF appears to permit land covered by land use planning through Integrated Landscape Management (ILM) to be counted towards the target areas and not just land covered with specific plot level interventions. After much work with national experts and the GEF Secretariat, the FAO-MARA subproject now has consolidated its plans and will cover 450,000 hectares in four provinces with ILM, good agriculture practices, climate-smart agriculture, and integrated pest management, plus 80,000 hectares of ecological restoration. For Hubei province the World Bank-Hubei sub-project will target 520,000 hectares under improved climate smart, safe, and sustainable practices, and 20,000 hectares for restoration.

Cross-cutting Issues

Gender. Interviewees pointed to the outmigration of men from Chinese provinces, leaving many women and children behind, as an important consideration for designing gender-sensitive interventions in these areas. For this reason, the participation of women is intended to be a rigid indicator, with 50 percent female beneficiaries targeted in the FAO-MARA sub-project and 40 percent in Hubei province. For Hubei, a gender analysis concluded that there were gender gaps in knowledge and earnings that the project intends to narrow through developing women's skills and awareness, improving investment opportunities for women-owned and -led cooperatives, and creating enterprises and jobs for women along value chains. The FAO-MARA sub-project presents a detailed gender analysis and action plan including gender specific capacity building. In general, Chinese counterparts consider the strong

emphasis on social issues, gender, and participation as one of the assets of collaborating with GEF.

Resilience. Although food security is an important goal of the Chinese government, household resilience aspects do not feature strongly in the sub-projects. For the Hubei sub-project, resilience to climate risks is mentioned as a project goal. But it is mainly related to crop resilience through better soil and water management. Climate resilience is a project objective in the theory of change of the China FOLUR child project, but it is similarly brought up only in rather general language throughout the text, ranging from resilience of ecosystems, farmer communities, landscapes, and livelihoods to agricultural supply chains during COVID-19.

Private sector. Both FOLUR sub-projects see a large role for private sector contributions and interactions, mainly in the areas of agricultural input, technology and marketing companies and cooperatives. This is mainly a result of the FOLUR impact program having requested stronger interactions with the private sector in a value-chain approach. Specifically, interviewees stated that they expect the project to help enhance the market value of ecologically and safely produced agricultural products. In Hubei, private enterprises and cooperatives have committed to substantial self-financing for scaling-up green practices and land-use planning promoted by the project. It is also intended to expand the instrument of allowing companies to use voluntary carbon emissions project offset options to cover part of their carbon reduction targets. The private sector is expected to adhere to local industrial policies, introduce innovations, and include poorer farmers.

For the FAO-MARA sub-project an amount of US$10.2 million (15 percent of total project costs) is expected to be contributed from named agricultural companies and cooperatives. Since the Chinese government subsidizes the private sector for certain activities, the FOLUR child project is expected to influence conditionalities. As a particular avenue of innovation, the FAO-MARA sub-project tries to involve and work with the giant Alibaba company in digital agriculture, precision farming, and green e-commerce. According to FAO, there were many discussions in FOLUR on the type of private sector to be targeted, particularly the extent to which smaller actors in value and commodity chains should be addressed, such as small and medium enterprises (SMEs) and MSMEs, beyond the large-scale domestic and global players.

Program Governance

Efficiency of start-up. Both FOLUR child project sub-projects were developed in a relatively short time—slightly more than a year. Design of the World Bank-Hubei sub-project was largely guided by the regional World Bank project task team co-leaders with occasional consultation of the World Bank FOLUR Lead team and GEF Secretariat staff. The provincial government confirmed that it had good communications with the World Bank task team leaders on GEF priorities. There have been few opportunities for contacts with GEF Secretariat staff so far, particularly throughout 2020 due to COVID-19. For the FAO-MARA sub-project and the joint CEO ER, design was primarily guided by the FAO FOLUR team and to some extent the GEF Secretariat, with regional and national consultants doing most of the work and local consultations. Some concerns were expressed about cumbersome administrative reviews by

international agencies with experts not familiar with Chinese conditions, partly based on former experiences in other projects. There was relatively little interaction with the World Bank FOLUR team except for some written guidance notes shared by the World Bank and some discussions on private sector involvement. Overall, the division of labor between the different actors involved was very clear to Chinese counterparts.

Still, the splitting of the China child project into two sub-projects caused some delays and confusion (see also box). For the World Bank-Hubei sub-project this led to the delay of the GEF grant that was embedded in the cofinanced loan project, with the overall project having been approved by the Bank's Board without the GEF part in 2020. A joint CEO endorsement request was eventually submitted in August 2021 as mentioned earlier.

Developing the two China FOLUR impact program sub-projects

The Hubei WB GEF sub-project was developed first starting in 2018 after the province won a domestic call for proposals for a World Bank loan from the China Ministry of Finance. The Province was interested in a GEF contribution to add environmental, sustainability and climate-smart activities into the early proposal that was more agricultural production and food safety focused and the FOLUR impact program was an opportunity at the time. A country allocation meeting was held with the GEF Secretariat in Beijing in Jan. 2019. Afterwards the GEF China OFP proposed that the WB and FAO projects to work together under FOLUR since the National Ministry of Agriculture and Rural Affairs (MARA) was interested working with FAO in FOLUR, too, but only one FOLUR impact program project was permitted per country. So, the originally allocated GEF amount was split.

GEF approved a joint GEF concept note for the two projects in 2019. The MARA/FAO sub-project and the joint CEO Endorsement Request were then designed between June 2019 and June 2020. Since it had started earlier, the WB GEF sub-project design in Hubei province moved faster and the cofinance baseline project was approved by the WB Board in 2020, with GEF cofinance and a GEF sub-project document still pending. In the end, no joint project

Program governance. Government authorities see both FAO and World Bank as strong GEF Agencies for FOLUR in China. FAO is well placed and connected in the Ministry of Agriculture and Rural Affairs (MARA) and a preferred partner in other GEF projects. Interviewees stated that they view FAO as particularly strong on whole 'food systems' approaches, pro-poor strategies, and food security (the latter being a big priority of the Chinese Government); and food safety and chemicals (as important in both FAO-MARA and World Bank-Hubei sub-projects). Interviewees see the World Bank as having significant political and financial leverage in terms of policy influence and cofinance potential. Both FAO and World Bank are appreciated for their expansive regional and international connections, with accumulated advanced experience and ideas from all over the world.

Transparency. The process thus far has been generally perceived as transparent and cooperative. Chinese counterparts describe the process of selecting and designing the GEF FOLUR child project as fair, open, and fully transparent. After an open call by the Chinese Ministry of Finance (OFP), Agencies submitted projects that were internally screened and

reviewed by the China Secretariat and then submitted for further review and decisions to GEF. After the Chinese OFP decided to develop two sub-projects and selected the Agencies, the World Bank and FAO sub-project preparation teams interacted regularly and professionally. For the Hubei sub-project, the selection of the four target counties in Hubei was based on transparent criteria, with ample consultations among participating agencies and counties.

Knowledge Platforms

Interview partners expressed their interest in engaging with the FOLUR Global Knowledge Platform, but contacts so far have been limited. The FAO-MARA sub-project allocated some resources for knowledge exchange activities related to the Global Platform, but some interviewed project stakeholders stressed that they did so in the absence of a clear understanding of its real purpose and activities and of what their participation and obligations in the platform would entail.

Chinese counterparts expressed concern that the Platform's exclusive use of English will pose an obstacle for many Chinese stakeholders and suggest that important platform knowledge products and events be translated into Chinese to foster broader transfer to China. In addition to the global platform, the FAO-MARA sub-project builds considerably upon domestic cooperation with knowledge organizations which includes intended partnerships with the National Ministry of Science and Technology, China Agricultural University, the China Food and Land Use /World Resources Institute coalition, as well as activities by the International Rice Research Institute (IRRI) and the International Maize and Wheat Improvement Center (CIMMYT) activities in China on rice (IRRI as founding member of SRLI) and wheat and maize (CIMMYT).

Summary of Findings

Sustainable Cities

The relevance of design of the Sustainable Cities child projects under GEF-6 and GEF-7 is confirmed via the case study. There is strong alignment between the locally relevant project goals pursued at the city level with the ones of emerging national policies, with regard to transit-oriented development, innovative urban design, and compact urban form (SC-IAP), and with regard to biodiversity conservation and nature-based solutions for urban environmental management (SC-impact program). These emerging national-level policies also correspond to China's ambitions at the international scale of responding to its GHG mitigation commitments under the Paris Agreement and of promoting biodiversity conservation. These will be the themes of the Glasgow November 2021 UNFCCC COP26 and of the Kunming May 2021 Convention on Biological Diversity (CBD) COP15. China's engagement with the GEF in the Sustainable Cities projects thus provides another opportunity for international engagement and visibility.

The coherence of design of the China child projects with the Sustainable Cities programs and their respective Theories of Change is also confirmed via the case study. National and city-level stakeholders recognize and are benefiting from GEF's international mandate to promote the

integration of global and local environmental benefits. The World Bank's long-standing engagement in China in the urban and environmental arenas has also allowed for project designs which are coherent with its financial and technical support and strategic engagement at the national level. There is continuity of design between the SC-IAP and the SC-impact program given that in both projects one central-level agency is responsible for the link with national policies and institutions and knowledge management, while multiple cities take part in the implementation at scale of the innovations being introduced. In both the SC-IAP and the SC-impact program projects, loans and budgetary resources are supporting infrastructure investments.

The cross-cutting issues of gender, resilience, and private sector participation are present in the two Sustainable Cities child projects to varying degrees. In the case of gender, SC-impact program has clearly specified quantitative targets, which were absent in SC-IAP. In the latter child project, however, there are on-going efforts to ensure that transit accessibility takes gender and age considerations into account. Resilience plays a more prominent role in the SC-impact program than it did in the SC-IAP. Although there are no related indicators, ongoing SC-impact program project design incorporates urban and coastal resilience into biodiversity conservation and nature-based solution design. Private sector participation is not well developed in either project.

Internal governance of the SC-IAP has been robust so far, and attributed by all project stakeholders consulted, both at national and local scales, as due to a systematic management by the World Bank. The World Bank has invested time and effort first at training PMOs and then at coordinating their work with regular bi-monthly missions and meetings, which created the opportunities for participating cities to interact with one another. COVID-19 has shifted most interactions online and has had a negative impact on international participation of experts and firms.

The **knowledge platforms have an important role** to play in the integration of the specific experiences of participating cities, in a two-way exchange with positive expected impacts for Chinese cities beyond those involved in the projects. The knowledge platforms are expected to play a normative role at national scale and to continue operating beyond the GEF grant timelines. SC-IAP has provided its stakeholders exposure to other cities around the world and multiple capacity building opportunities on TOD. The GPSC has widened the range of peers and global exchanges in continuity with the work occurring in China, also due in large part to its management by the World Bank. Project reporting for SC-IAP has been consistent and coherent with the results framework as established at the outset.

The results of the SC-IAP child project at MTR are significant. Despite an initial delay due to grant set-up and the creation and training of the PMOs in the participating cities, all intermediate targets have been reached or vastly surpassed, with the exception of the national knowledge platform which is delayed. Capacity building outcomes have significantly surpassed targets and half of contract packages have entered implementation, which constitutes a sound basis for the completion of the project. While the disbursement ratio is relatively low at 13.6%,

it is likely to accelerate significantly during 2021 and 2022 and projected to be complete by project closing.

Food Systems, Land Use and Restoration Impact Program

In terms of **relevance**, the two sub-projects of the FOLUR impact program China child project are well aligned with national priorities and the Conventions. The Hubei province government explicitly requested GEF cofinance to a World Bank lending operation to better pursue its environmental and climate change objectives, particularly of GHG-emissions and carbon sequestration measurement and monitoring. Developing better environmental and climate change awareness, know-how, and conceptual leadership as well as M&E of GEBs are major motivations for GEF involvement by the Chinese Authorities. Green policies and standards are an important vehicle for GEBs.

As far as **coherence and innovation** are concerned**,** both sub-projects of the FOLUR impact program China child project are fully aligned with the FOLUR Theory of Change. They are broader in integrating the focal areas of land degradation, climate change, and biodiversity than regular GEF projects. A number of GEF technical and institutional activities and concepts applied in the sub-projects are seen as highly innovative for China. Environmental governance could be helped through the establishment of an institutional coordination mechanism for the two sub-projects. There is high demand for increasing Government capacities to define, measure, and monitor major project outcomes and GEBs, such as CO_2eq emission reductions and carbon sequestration. Clarifications on GEF core indicators during design helped in defining targets.

On **cross-cutting issues,** gender analysis and action plans exist in both sub-projects of the FOLUR China child project and between 40 and 50 percent of beneficiaries targeted are women. Resilience is one of the objectives in the child project and mainly defined in terms of environmental and climate resilience. Private sector is expected to be a key player, including medium scale enterprises as well as major conglomerates such as Alibaba Company to expand digital agriculture. Financial and in-kind contributions are expected from private sector in both sub-projects.

In terms of **program governance**, the efficiency of start-up in the FOLUR impact program China child project has been affected by the division of the child project into two sub-projects. FAO and World Bank are both seen as strong GEF Agencies for bringing in their international connections, experiences and ideas which contributed to their efficiency of project design (within approximately 12 months). The sub-projects had so far only limited interactions with the FOLUR impact program Lead team and projects have mainly been guided by GEF Agencies and to some extent by the GEF Secretariat. In terms of future cooperation with the Global Knowledge Platform the Chinese Government expressed its hope that critical knowledge products could also be made available in Chinese language(s) to facilitate local counterparts to better benefit from it.

There are no **results** yet in the FOLUR child project as it is still under design.

Evolution of GEF integrated approach

Sustainable Cities. There is strong continuity in the design of the Sustainable Cities IAP and impact program child projects in China. This continuity is evident first in the selection of the GEF implementing agency, the World Bank, which has a deep financial and technical engagement with cities and municipalities in China. Secondly, both SC-IAP and SC-impact program project's institutional architectures are based on a national level agency, entrusted with the creation of a knowledge platform, and on a number of participating cities where the innovations supported by GEF are tested at scale, in the pursuit of local and global environmental benefits.

The evolution of the GEF integrated approach is taking place at the Sustainable Cities program level and is reflected in the design of the China child projects. SC-impact program focused on a single sector, TOD, and integrated urban planning, compact urban form, and related GHG emissions abatement around it. SC-impact program on the other hand expands the concept of integrated urban planning to the interface of the city with surrounding rural areas and focuses on biodiversity conservation and natured-based solutions for environmental management in and around urban areas. Given the selection of cities for the two child projects, the city of Ningbo is the only one which will experience the cumulative benefits of both. This will allow this city to pursue biodiversity supported by GEF-7, in continuity with the progress in integrated urban planning and TOD being achieved with the support of GEF-6. The linkages between the two subject areas are thus only experienced by this participating city.

FOLUR. There had been no previous IAP related child project in China on agriculture. Nevertheless, the two FOLUR impact program sub-projects were informed and inspired by several previous GEF projects in China. Among others, the MARA/FAO sub-project built on the experiences and lessons from the UNDP-led GEF-6 *PRC-GEF Partnership Program for Sustainable Agricultural Development* and another UNDP GEF-6 project of phasing out endosulfan in cotton and tobacco, an IUCN GEF-6 project on climate resilient infrastructure and forest landscape restoration in Jiangxi and Guizhou provinces, and a FAO led GEF-5 project on wetland protected areas in Jiangxi Province.[6] The Hubei sub-project was strongly motivated by the Dongwon GEF project. Compared to these and many other full-scale GEF projects approved for China in GEF 5-7, the FOLUR child project takes an integrated approach across the three GEF focal areas (CC, BD and LD) for the first time.[7] Similarly, before the Hubei province project, the World Bank had been working in China on climate-smart, sustainable and food safety issues, but had never combined all in one project.

---

[6] FAO proposal, p.39 (and CEO ER)

[7] The China GEF portfolio is relatively large, with 48 full-scale projects approved in GEF5, 25 in GEF6, and 10 in GEF7 so far. For GEF6, 10 of these projects exclusively addressed biodiversity, 7 climate change, 5 chemicals and waste and 2 were mixed BD/LD or BD/CC (Source: GEF website).

Appendices

Appendix 1 – List of interviews

Name	Role/Organization	Interview Date
Sustainable Cities – IAP		
Wanli Fang	Senior Urban Specialist World Bank, Task Manager	November 19, 2020
Peng Mengyue	MoHURD Deputy Director and PMO Executive Director	December 15, 2020
Wang Yao	PMO Project Officers	December 15, 2020
Zhang Wanjun	PMO Project Officers	December 15, 2020
Lu Zheng	Consultant**,** Ningbo PMO	December 14, 2020
Wang Jie	Deputy Director, Shenzhen PMO	December 9, 2020
He Li	Deputy Director, Guiyang PMO	December 4, 2020
Li Heng	Project Officer, Guiyang PMO	December 4, 2020
Luo Xianwu	Tsinghua University and PMO Consultant Expert	December 4, 2020
Sustainable Cities – impact program		
Xueman Wang	Senior Urban Specialist, World Bank, Task Manager	November 16, 2020
Bai Wei	PMO Project Officer, China Center for Urban Development (CCUD)	December 8, 2020
Zhou Huining	Deputy Director, Ningbo PMO	December 7, 2020
He Xingyu	Director, Chengdu PMO	December 9, 2020
Zhou Tao	Director, Chongqing PMO	December 4, 2020
Xu Wei	Project Officer, Chongqing PMO	December 4, 2020
FOLUR child project China		
William Sutton	Economist, World Bank	December 8, 2020
Jianwen Liu	Agricultural Economist, World Bank	December 8, 2020
Angela Joehl	FAO long-term consultant	December 23, 2020
Zhao Lihua	Deputy Director, Hubei Province Project Management Office	January 11, 2021

Shi Shangbai	Consultant Expert, Hubei Province Project Management Office	January 11, 2021
Chen Fu	Team Leader of Chinese Expert Team	January 20, 2021
Zhang Yanping	Project Coordinator, Ministry of Agriculture and Rural Affairs (MARA)	January 20, 2021

Appendix 2 - References

World Bank. July 2017. GEF China Sustainable Cities Integrated Approach Pilot Project Appraisal Document (PAD). Report No: PAD 1801. Social, Urban, Rural and Resilience Global Practice. East Asia and Pacific Region. Washington, DC.

World Bank. Aide Memoire. China: GEF Sustainable Cities Integrated Approach Pilot Project (P156507). Virtual Mid-Term Review Mission and TOD Knowledge Sharing Workshop. August 17-18, 2020. Washington, DC.

World Bank and GEF. Quarterly Newsletter of GEF China Sustainable Cities Integrated Approach Pilot Project. Issue No. 9, September 2020.

World Bank. China: Nanchang Urban Rail Project. Implementation Completion and Results Report. Report No: ICR00005224. 12/31/2020. Washington, DC.

FAO. Nov. 2020. Innovative transformation of China's food production systems and agro-ecological landscapes towards sustainability (FAO-MARA sub-project). FAO-GEF Project Document. FAO project symbol: Gchild project/child projectR/065/GFF. GEF project ID: 10246.

FAO and World Bank. Jan. 2021. Innovative transformation of China's food production systems and agro-ecological landscapes towards sustainability. (Joint) GEF-7 Request for project endorsement/approval. GEF project ID: 10246.

World Bank. April 2020. Hubei Smart and Sustainable Agriculture Project. Project Appraisal Document (PAD). Report No: PAD3582. Agriculture and Food Global Practice. East Asia and Pacific Region. Wash. DC.

The Independent Evaluation Office of the Global Environment Facility (GEF) was established by the GEF Council in July 2003. The Office is independent from GEF policy making and its delivery and management of assistance.

The Office undertakes independent evaluations that involve a set of projects and programs implemented by more than one GEF Agency. These evaluations are typically at the strategic level, on focal areas, or on cross-cutting themes. We also undertake institutional evaluations, such as assessing the GEF resource allocation mechanism or GEF governance.

Within the GEF, the Office facilitates cooperation on evaluation issues with professional evaluation networks; this includes adopting evaluation guidelines and processes consistent with international good practices. We also collaborate with the broader global environmental community to ensure that we stay on the cutting edge of emerging and innovative methodologies.

To date, the Office has produced over 100 evaluation reports; explore these on our website: www.gefieo.org/evaluations.

gef GLOBAL ENVIRONMENT FACILITY
INVESTING IN OUR PLANET

IEO Independent Evaluation Office
GLOBAL ENVIRONMENT FACILITY

Independent Evaluation Office, Global Environment Facility
1818 H Street, NW Washington, DC 20433, USA
www.gefieo.org /gefieo_tweets /gefieo