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Report No: PAD3699

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT AND INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A
PROPOSED CREDIT
IN THE AMOUNT OF US$75.00 MILLION

AND PROPOSED GRANTS
IN THE AMOUNT OF US$12,756,881
FROM THE GLOBAL ENVIRONMENT FACILITY

AND
IN THE AMOUNT OF US$15.00 MILLION
FROM THE GLOBAL PARTNERSHIP FOR SUSTAINABLE AND RESILIENT LANDSCAPES MULTI-DONOR TRUST FUND

AND
IN THE AMOUNT OF US$0.60 MILLION
FROM THE EXTRACTIVES GLOBAL PROGRAMMATIC SUPPORT MULTI-DONOR TRUST FUND

TO THE
REPUBLIC OF GHANA

FOR A

GHANA LANDSCAPE RESTORATION AND SMALL-SCALE MINING PROJECT

AUGUST 10, 2021

Environment, Natural Resources, and the Blue Economy Global Practice
Western and Central Africa Region

CURRENCY EQUIVALENTS

(Exchange Rate Effective May 31, 2021)

Currency Unit =	New Ghanaian Cedi (GHS)
GHS 5.74 =	US$1

FISCAL YEAR
January 1–December 31

ABBREVIATIONS AND ACRONYMS

ASM	Artisanal and Small-Scale Mining	ICT	Information and Communication Technology
AWP	Annual Work Plan	IFC	International Finance Corporation
BMP	Biodiversity Management Plan	ILM	Integrated Landscape Management
CAGD	Controller and Accountant General's Department	IMCIM	Inter-Ministerial Committee on Illegal Mining
CBA	Cost-Benefit Analysis	IPF	Investment Project Financing
CEC	CREMA Executive Committee	IRR	Internal Rate of Return
CEO	Chief Executive Officer	IUFR	Interim Unaudited Financial Report
CERC	Contingent Emergency Response Component	LSC	Local Steering Committee
CFI	Cocoa and Forests Initiative	M&E	Monitoring and Evaluation
COCOBOD	Ghana Cocoa Board	MC	Minerals Commission
COVID-19	Coronavirus Disease 2019	MDAs	Ministries, Departments, and Agencies
CPESDP	Coordinated Programme of Economic and Social Development Policies	MESTI	Ministry of Environment, Science, Technology and Innovation
CPF	Country Partnership Framework	METT	Management Effectiveness Tracking Tool
CREMA	Community Resource Management Area	MLNR	Ministry of Lands and Natural Resources
CRMC	Community Resource Management Committee	MMIP	Multi-Sectoral Mining Integrated Project
CSO	Civil Society Organization	MoFA	Ministry of Food and Agriculture
CWMT	Community Watershed Management Team	NCB	National Competitive Bidding
DA	Designated Account	NDC	Nationally Determined Contribution
DMC	District Mining Committee	NGO	Nongovernmental Organization
DPMC	District Planning and Management Committee	NP	National Park

DSMC	District Small-Scale Mining Committee
DWMT	District Watershed Management Team
E&S	Environmental and Social
EGPS	Extractives Global Programmatic Support
EITI	Extractive Industries Transparency Initiative
EPA	Environmental Protection Agency
EPRP	Emergency Preparedness and Response Plan
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESRS	Environmental and Social Review Summary
ESS	Environmental and Social Standards
EX-ACT	Ex-Ante Carbon-Balance Tool
FC	Forestry Commission
FIP	Forest Investment Program
FM	Financial Management
FMC	Financial Management Consultant
FMNR	Farmer-Managed Natural Regeneration
FMP	Forest Management Plan
FMS	Financial Management Specialist
FOLUR	Food Systems, Land Use and Restoration
FR	Forest Reserve
FSD	Forest Services Division
GAS	Ghana Audit Service
GBV	Gender-based Violence
GDP	Gross Domestic Product
GEF	Global Environment Facility
NPF	New Procurement Framework
NPV	Net Present Value
NSLMC	National Sustainable Land Management Committee
NREG TA	Natural Resources and Environmental Governance Technical Assistance
NSZ	Northern Savannah Zone
NTFP	Non-Timber Forest Product
PA	Protected Area
PBA	Performance-based Allocation (under IDA)
PCU	Project Coordinating Unit
PDO	Project Development Objective
PFM	Public Financial Management
PIM	Project Implementation Manual
PMMC	Precious Minerals Marketing Company Ltd.
PMP	Project Management Platform
PPF	Project Preparation Financing
PROFOR	Program on Forests
PROGREEN	Global Partnership for Sustainable and Resilient Landscapes Multidonor Trust Fund
PSC	Project Steering Committee
PV	Present Value
REDD+	Reduced Emissions from Deforestation and Forest Degradation and the Role of Conservation, Sustainable Management of Forests, and Enhancement of Forest Carbon Stocks in Developing Countries
RMSC	Resource Management Support Centre
RPF&PF	Resettlement Policy Framework and Process Framework
SEA/SH	Sexual Exploitation and Abuse/Sexual Harassment
SEP	Stakeholder Engagement Plan
SESA	Strategic Environmental and Social Assessment

GGSA	Ghana Geological Survey Authority	SLM	Sustainable Land Management
GHG	Greenhouse Gas	SLWM	Sustainable Land and Water Management
GIFMIS	Ghana Integrated Financial Management Information System	SLWMP	Sustainable Land and Water Management Project
GIZ	*Deutsche Gesellschaft für Internationale Zusammenarbeit* (German Development Agency)	SME	Small and Medium Scale Enterprise
GLRSSMP	Ghana Landscape Restoration and Small-Scale Mining Project	SOE	Statement of Expenditure
GoG	Government of Ghana	SORT	Systematic Operations Risk-Rating Tool
GRM	Grievance Redress Mechanism	SSM	Small-Scale Mining
GRS	Grievance Redress Service	STAR	System for Transparent Allocation of Resources
GGSA	Ghana Geological Survey Authority	TCO	Technical Coordination Office
GSIF	Ghana Strategic Investment Framework	UNFCCC	United Nations Framework Convention on Climate Change
IA	Implementing Agency	VSLA	Village Savings and Loans Association
ICB	International Competitive Bidding	WBG	World Bank Group

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name
Ghana	Ghana Landscape Restoration and Small Scale Mining Project

Project ID	Financing Instrument	Environmental and Social Risk Classification
P171933	Investment Project Financing	Substantial

Financing & Implementation Modalities

[ ] Multiphase Programmatic Approach (MPA)	[✓] Contingent Emergency Response Component (CERC)
[ ] Series of Projects (SOP)	[ ] Fragile State(s)
[ ] Performance-Based Conditions (PBCs)	[ ] Small State(s)
[ ] Financial Intermediaries (FI)	[ ] Fragile within a non-fragile Country
[ ] Project-Based Guarantee	[ ] Conflict
[ ] Deferred Drawdown	[ ] Responding to Natural or Man-made Disaster
[ ] Alternate Procurement Arrangements (APA)	[ ] Hands-on Enhanced Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
30-Aug-2021	30-Sep-2027

Bank/IFC Collaboration

No

Proposed Development Objective(s)

to strengthen integrated natural resource management and increase benefits to communities in targeted savannah and cocoa forest landscapes

Components

Component Name	Cost (US$, millions)

Component 1: Institutional strengthening for participatory landscape management	14.21
Component 2: Enhanced governance in support of sustainable ASM	17.48
Component 3: Sustainable crop and forest landscape management	60.28
Component 4: Project monitoring and knowledge management	11.39
Component 5. Contingent emergency response	0.00

Organizations

Borrower:	The Republic of Ghana
Implementing Agency:	Environmental Protection Agency Ministry of Lands and Natural Resources

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	103.36
Total Financing	103.36
of which IBRD/IDA	75.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	75.00
IDA Credit	75.00

Non-World Bank Group Financing

Trust Funds	28.36
Extractives Global Programmatic Support	0.60
Global Environment Facility (GEF)	12.76
Global P'ship for Sust. and Resilient Landscapes - PROGREEN	15.00

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
Ghana	75.00	0.00	0.00	75.00
National PBA	75.00	0.00	0.00	75.00
Total	**75.00**	**0.00**	**0.00**	**75.00**

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2022	2023	2024	2025	2026	2027	2028
Annual	7.25	15.32	19.43	21.58	22.79	16.39	0.60
Cumulative	7.25	22.57	42.00	63.58	86.37	102.76	103.36

INSTITUTIONAL DATA

Practice Area (Lead)

Environment, Natural Resources & the Blue Economy

Contributing Practice Areas

Agriculture and Food, Energy & Extractives

Climate Change and Disaster Screening

This operation has been screened for short and long-term climate change and disaster risks

SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	Substantial
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Substantial
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Substantial

8. Stakeholders	Substantial
9. Other	Moderate
10. Overall	Substantial

COMPLIANCE

Policy

Does the project depart from the CPF in content or in other significant respects?

[ ] Yes [✓] No

Does the project require any waivers of Bank policies?

[ ] Yes [✓] No

Environmental and Social Standards Relevance Given its Context at the Time of Appraisal

E & S Standards	Relevance
Assessment and Management of Environmental and Social Risks and Impacts	Relevant
Stakeholder Engagement and Information Disclosure	Relevant
Labor and Working Conditions	Relevant
Resource Efficiency and Pollution Prevention and Management	Relevant
Community Health and Safety	Relevant
Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Not Currently Relevant
Cultural Heritage	Relevant
Financial Intermediaries	Not Currently Relevant

NOTE: For further information regarding the World Bank's due diligence assessment of the Project's potential environmental and social risks and impacts, please refer to the Project's Appraisal Environmental and Social Review Summary (ESRS).

Legal Covenants

Sections and Description
1. The Recipient shall recruit, within two (2) months after the Effective Date, an environmental specialist [for the MLNR PCU] through either government appointment or on a competitive basis, with qualifications, experience, and terms of reference satisfactory to the Association. 2. The Recipient shall establish, within ninety (90) days after the project effectiveness date, or any later date as may be agreed with the Association, and thereafter maintain at all times during Project implementation, a Project steering committee ("Project Steering Committee" or "PSC") for the Project, with a composition, mandate and resources satisfactory to the Association. 3. The annual work plans and budgets for the first year of project implementation shall be furnished no later than one (1) month after the project effective date. For subsequent years, the annual work plans and budgets shall be furnished no later than November 30. 4. Regional and district level environmental and social focal points and personnel will be designated within one (1) month after the project effectiveness date and maintained throughout project implementation.

Conditions

Type	Financing source	Description
Effectiveness	IBRD/IDA	Financing Agreement (IDA), Article IV, 4.01. (c): This Agreement shall not become effective until evidence satisfactory to the Bank has been furnished to the Bank that, namely, the Grant Agreements have been executed and delivered and all conditions precedent to their effectiveness or to the right of the Recipient to make withdrawals under them (other than the effectiveness of this Agreement)have been fulfilled
Type	Financing source	Description
Effectiveness	Trust Funds	Grant Agreements (EGPS, GEF, PROGREEN), Article V, 4.01: This Agreement shall not become effective until evidence satisfactory to the Bank has been furnished to the Bank that, namely, the Financing Agreement has been executed and delivered and all conditions precedent to its effectiveness or to the right of the Recipient to make withdrawals under it (other than the effectiveness of this Agreement) have been fulfilled.

I. STRATEGIC CONTEXT

A. Country Context

1. **Ghana, a country in West Africa with a population of 30.4 million people in 2019,[1] has achieved remarkable success in economic growth over the past two decades, with significant contribution from renewable and nonrenewable natural resources.** Since 1990, real gross domestic product (GDP) in Ghana has more than quadrupled, and in 2011, the country hit a significant milestone when it joined the ranks of the lower-middle-income countries. Poverty declined from 13.0 percent to 11.1 percent between 2016 and 2019 (measured by the international poverty line, US$1.9 purchasing parity power) as a result of strong GDP per capita growth. In 2019, export earnings from gold, cocoa, and oil accounted for 83 percent of exports.[2] Though the economic structure is shifting to services, 35–45 percent of jobs are still based on renewable natural resource sectors, including agriculture, forestry, livestock, and fisheries.[3]

2. **However, growth has been inequitable, and unsustainable growth could imperil future economic development.** It is noteworthy that Ghana's adjusted net savings[4] have been negative since 2007 despite a simultaneous increase in the stock of nonrenewable capital. In other words, the combined economic benefits of energy, mineral resources, and intensified land use have been outweighed by the costs of degraded forest areas and environmental impacts as a result of unsustainable practices.[5] The cost of environmental degradation due to unsustainable use of land for agriculture, forests, and mining stands at 2.8 percent of national GDP (2017).[6] If the current natural resource extraction remains unchanged, Ghana will see its natural resource base destroyed over the long term, with fewer opportunities to sustain growth and share prosperity.

3. **The improvement in the national poverty rate is not equal across regions,** as in 2012–2016, poverty increased in the four poorest regions (Upper West, Upper East, Northern, and Volta regions).[7] Bridging the developmental gap has been a national goal, but despite attempts to address the challenge, the inequality gap keeps widening, and the Northern Savannah Zone (NSZ) continues to have a higher poverty rate. Poverty remains highest among rural populations dependent on natural resources and agriculture. In addition, the deterioration of natural capital disproportionally exacerbates poverty among vulnerable rural communities and amplifies natural disaster and climate risks.

4. **Climate change poses a significant threat to Ghana's sustainable economic growth.** Climate change has undermined Ghana's efforts to achieve further poverty reduction[8] and can further derail

[1] https://data.worldbank.org/country/ghana accessed on February 16, 2021.
[2] Bank of Ghana. 2020. *Summary of Economic and Financial Data*.
[3] GLSS6. 2014. *Ghana Living Standards Survey Round 6: Main Report*. Retrieved from http://catalog.ihsn.org/index.php/catalog/5350/download/65128; and Ghana Statistical Service. 2016. *2015 Labour Force Report*. Retrieved from http://www.statsghana.gov.gh/docfiles/publications/Labour_Force/LFS%20REPORT_fianl_21-3-17.pdf.
[4] The indicator of Adjusted Net Savings adjusts the conventional measure of (gross) national savings for (a) asset depletion, (b) environmental damage, and (c) investment in human capital.
[5] World Bank. 2020. *Ghana Country Environmental Analysis (English)*. Washington, DC: World Bank.
[6] World Bank. 2020. *Ghana Country Environmental Analysis (English)*. Washington, DC: World Bank.
[7] World Bank. 2020. *Ghana Poverty Assessment*. Washington, DC: World Bank.
[8] World Bank Group. 2018. Ghana Priorities for Ending Poverty and Boosting Shared Prosperity: Systematic Country Diagnostic. World Bank, Washington, DC. © World Bank.

progress on economic and social development. The poorer regions of the country such as the Northern region are more exposed to impacts of climate change due to a higher vulnerability of assets and livelihoods, lower ability to cope and recover from disasters, and the effects of climate risk on saving and investment behavior.[9] Climate change causes shifts in growing seasons and lower agricultural yields as a result of variability in rainfall and higher temperature patterns and reduces local food availability. As the effects of climate change intensify, subsistence farmers in Ghana are expected to face increased food insecurity, due to their reliance on rainfed agriculture. At the same time, healthy ecosystems play an important role in mitigation, adaptation, and resilience in the face of climate change.

5. **The coronavirus 2019 disease (COVID-19) crisis has had large repercussions on poverty and social well-being through job and income losses and puts pressure on the Government to provide relief to households and businesses, resulting in larger fiscal deficits and debt accumulation.** The COVID-19 pandemic briefly ended a strong growth episode and a two-year disinflation process in Ghana, through its impact on external demand (including for tourism), commodity prices (particularly of oil), and foreign direct investment. GDP growth slowed to 0.4 percent in 2020, after averaging 7 percent per year in 2017–2019. Inflation has since returned to the pre-pandemic levels, recording 7.5 percent in May 2021 while growth is estimated at 3.1 percent in the first quarter of 2021. The crisis has also disrupted the fiscal consolidation program, with an estimated fiscal deficit of 11.7 percent of GDP in 2020, as the Government provided support to protect lives and livelihoods. Public debt is estimated to have reached 76.1 percent of GDP in 2020.[10] Before the crisis, Ghana had benefitted from gains in fiscal consolidation, but fiscal pressures arose before the crisis from costly financial sector reforms in 2018–2020 and the Energy Sector Recovery Program started in 2019. Ghana's labor market has been hard hit by the pandemic, leading to job losses, lower incomes, and increased poverty. In the first three months of the crisis, 77 percent of the population reported a decline in household income. Poverty reduction has halted in 2020, with the poverty rate stagnating around 11.2 percent (as measured by the US$1.9, 2011 PPP poverty line). However, the economy was showing early signs of recovery at the end of 2020, on the back of strong agriculture, manufacturing, and tradable services sectors. See annex 6 for more details.

6. **In light of the COVID-19 pandemic, natural resources, including land and forests, are critical to delivering long-term inclusive growth recovery.** Natural capital and its relevance for jobs and livelihoods will be more important than ever, especially during this time of crisis where urban workers who have lost their jobs and livelihoods have returned to villages. The same goes for rural populations who will increasingly depend on forests and agriculture due to loss of wages. At the same time, rural populations are increasingly vulnerable to the spread of zoonotic diseases, as around three-quarters of all new human diseases emerge from animals.[11]

B. Sectoral and Institutional Context

7. **Land resources, including agricultural lands, forests, natural habitats, and minerals, are critical for Ghana's growth.** Together, agriculture, forestry, and minerals account for more than 20 percent of

[9] Hallegatte, Stéphane, Mook Bangalore, Laura Bonzanigo, Marianne Fay, Tamaro Kane, Ulf Narloch, Julie Rozenberg, David Treguer, and Adrien Vogt-Schilb. 2016. *Shock Waves: Managing the Impacts of Climate Change on Poverty*. Washington, DC: World Bank.
[10] Ministry of Finance data.
[11] https://www.cdc.gov/onehealth/basics/zoonotic-diseases.html. Accessed on August 15, 2020.

GDP[12] and are a major source of revenue and local livelihoods**.** Cocoa is a predominant commodity in agriculture and accounts for 7 percent of GDP and 20–25 percent of export earnings.[13] Gold alone provided approximately 40 percent of Ghana's export earnings in 2019[14] and accounts for more than 90 percent of gross mineral revenues,[15] of which artisanal and small-scale mining (ASM) accounts for one-third.[16] Undeclared ASM gold production is estimated to be of the same magnitude.[17] Moreover, the entire diamond production in Ghana is derived from ASM. Implementation of the Extractive Industries Transparency Initiative (EITI) has generated stronger accountability in revenue collection and governance of industrial-scale mining, but the ASM segment has not been included in these efforts until now.

8. **Natural resources-based sectors also provide significant employment opportunities.** The agriculture, forestry, and fishing sector (as reported in the national statistics) employs about 3.3 million of the rural population; the cocoa sector is reported to employ 1 million households.[18] Together, renewable and nonrenewable natural resources contribute significantly to livelihoods for the most vulnerable rural communities. Rural employment makes up 49.1 percent (4.6 million) of total employment in Ghana. Informal employment, including a huge number of unskilled workers in agriculture and forestry, provides livelihoods for more than 70 percent of the rural population, particularly to the country's poorest households.[19]

9. **Within the nonrenewable resources sector, ASM represents a very important contributor to national GDP and local livelihoods.** Ghana is endowed with substantial mineral resources, including gold, diamond, manganese, and bauxite. The ASM industry in Ghana comprises both a formalized segment of licensed operators and an informal segment of miners working without required permits. The ASM sub-sector includes just over 1,000 registered small operations.[20] Informal operations (colloquially called *galamsey*) are estimated to account for an even higher number of businesses and workers. ASM of precious minerals is estimated to employ about 8 percent of the labor force and represents an important source of income for almost 1 million households, predominantly in the most vulnerable rural communities.[21]

10. **The interrelationship between agriculture, forestry, and ASM is strong and multifaceted.** Artisanal and small-scale miners are often simultaneously engaged in subsistence farming and other agricultural livelihoods, with proceeds from mining being used to complement lower-income rural livelihood activities.

[12] Ghana Statistical Service. 2020. *Annual Agriculture Production Statistics - January 2020*. Agriculture accounts for 18.5 percent of GDP, with food crops, cocoa, and forestry accounting for 81.2 percent of the sectoral output.
[13] World Bank. 2018. *Third Ghana Economic Update: Agriculture as an Engine of Growth and Job Creation*. Washington, DC: World Bank.
[14] Bank of Ghana. November 2020. *Summary of Economic and Financial Data*.
[15] Ghana Chamber of Mines, 2020.
[16] Ghana Precious Minerals Marketing Company (PMMC), 2020.
[17] Ghana Minerals Commission, 2020.
[18] World Bank. 2018. *Third Ghana Economic Update: Agriculture as an Engine of Growth and Job Creation*. Washington, DC: World Bank.
[19] Ghana Labour Force Report 2015; World Bank. 2018. *Third Ghana Economic Update: Agriculture as an Engine of Growth and Job Creation*. Washington, DC: World Bank.
[20] Minerals Commission (MC), 2020.
[21] Delve, www.delvedatabase.org.

11. **Competing land uses for agriculture, mining, and forest utilization are the underlying drivers of land and environmental degradation that lead to continuous loss of natural capital for future generations.** According to the Global Forest Watch, from 2001 to 2020, Ghana lost 1.31 million hectares of tree cover, equivalent to a 19 percent decrease in tree cover since 2000, with some 95 percent of the loss attributable to shifting agriculture. The urgency of the challenge is underscored by the fact that the greatest losses in the last 20 years were in 2020 and 2018. The growing demand for land for cocoa plantations and food crops has resulted in further encroachment into more fertile forest reserves (FRs), while ASM is reported to displace cocoa farming because of the prospects of more profitable short-term yields. As short-term income gains determine the switch in land-use patterns, the productive and service functions of Ghana's lands are significantly reduced. The interdependence of food crops, cocoa, and forests, including for local livelihoods, needs to be recognized for better and environmentally sustainable resource management.

12. **Complexities in land tenure, lack of land-use planning, suboptimal land use, and unsustainable land-use practices have compromised the full potential of ASM[22] and negatively affected agricultural productivity.** This has adverse effects on income generation for Ghana's rural poor and on economic development in general. In addition, the high degree of informality erodes the potential fiscal revenues from the ASM sector, due to smuggling and tax evasion.

13. **Inconsistent policies have limited the expansion of agriculture beyond primary production and negatively affected the ability to attract private investments into agribusiness and value addition.** For example, after peaking at 1 million tons in 2011–2012, cocoa production seems to have plateaued at an average of around 800,000 tons per year. It is clear that the cocoa sub-sector is operating far below its potential despite the expansion of cocoa farms into forests which has led to loss and degradation of significant forest areas. As the land frontier runs out, farmers are shifting toward more intensive modes of production, and options will need to include higher-yielding technologies and a greater focus on high-value products and value addition. Likewise, incentives in the form of tree tenure and payment for ecosystem services need to be mainstreamed into resource management and conservation to reduce deforestation.

14. **The Government recognizes that small-scale mining (SSM) operations undertaken by Ghanaians offer opportunities to support rural livelihoods, develop entrepreneurship, and provide a source of industrial raw material.** However, small-scale miners must be assisted in their efforts to operate in a technically, economically, and environmentally sustainable manner. The ASM sector is constrained by a dearth of information about the national geology and mineralogy which could more clearly demarcate the areas most suitable for SSM. This lack of geo-scientific data has resulted in speculative hoarding of mineral licenses by investors with little interest in land-use planning—to the detriment of small-scale miners as well as local communities.

15. **Availability of financial resources and technical capacity at the decentralized level for sustaining good land-use practices is limited.** For ASM, Ghana's long history of large- and small-scale mining has allowed expansive institutional structures to develop; however, as an unintended consequence,

[22] ASM, as used in the project documents, is equivalent to small-scale mining (SSM) in Act 703, defined to mean mining operation over an area of land in accordance with the number of blocks prescribed by regulation 2 (2) and 204 (1) (d) of the Minerals and Mining (Licensing) Regulations, 2012 (L.I. 2176) or any amendment thereto.

bureaucratic complexities have emerged in the approval process, combining multiple national authorities, district authorities, and traditional chiefs. Costly and bureaucratic registration processes pose a disincentive to license acquisition and formalization. The direct consequence of uncertain land access is short-termism, where immediate profits are prioritized over longer-term development impacts.

16. **Lack of regularization of ASM and its enforcement also results in indirect enduring impacts on the environment,** contributing to poor water and soil quality due to mining-related pollution and contamination. While it is not a main driver of deforestation, increased mechanization in ASM represents a particularly harmful threat to biodiversity through physical incursion into forests and disruption of ecosystem services. The lack of formalization is a hindrance to less intrusive extraction methods because numerous studies have proven the positive correlation between formalization and modernized extraction methods which use less harmful chemicals and with a smaller environmental footprint. The regulatory framework governing ASM in Ghana must address existing gaps relating to regulatory, environmental, and technical compliance in the interest of community coexistence during mining activities and after the activities have occurred. Regulatory and enforcement structures require further decentralization for effective oversight at the local level, while traceability and reporting modalities must be improved to curb the illegal sale and export of sector output. Ineffective attempts of enforcement have resulted in strained relations between small-scale miners and authorities. Trust and productive collaboration can only be reestablished through positive incentive structures which include training, technology transfer, and facilitation of market channels, including reliable procedures for sale of gold by the small-scale miners through the Precious Minerals Marketing Company Ltd. (PMMC).

17. **Weaknesses in multi-sectoral land management planning risk conversion to alternate, often competing, land uses for short-term/early returns;** these weaknesses also undermine the sustainability of investments that target improved land management (for food production, cash crops, and land-based livelihoods) and reduction of land degradation and deforestation in the long term. Data about mineral occurrences and mining operations have generally been absent from these land modelling exercises. This means the ASM has been competing with or negatively affecting other productive uses of land and forests.

18. **Improved institutional and regulatory frameworks are critical for sustainable management of natural resources.** The Ministry of Environment, Science, Technology and Innovation (MESTI) and Ministry of Lands and Natural Resources (MLNR) as well as their respective agencies are responsible for the management of the natural resources and the Ministry of Food and Agriculture (MoFA) for agriculture. Yet, there is a lack of platforms that would allow tackling challenges and targeting communities collectively, with the same objective, and efficiently.

19. **Communities are not always actively involved in decision-making on natural resources management,** which provides a disincentive for sustainable management. Yet, there are successful models of land- and community-based natural resource management tested through ongoing initiatives in Ghana (such as community watershed management planning and a Community Resource Management Area [CREMA] model) that can be widely replicated at scale.

20. **The Government of Ghana (GoG) has in recent years initiated a number of sectoral reforms to address the challenges in agricultural productivity, forest landscapes management, and sustainable**

SSM. Draft legislations for the formalization of CREMAs[23] and a regulatory framework on tree tenure have been developed following adoption of the Forest and Wildlife Policy (2012) and need to be formally adopted. In the mining sector, Ghana has achieved meaningful progress toward implementing the EITI Standard and has initiated a range of national and subnational level reforms relating to production, financial, and process disclosures. Ghana recognizes the need to expand the scope of EITI reporting to include the ASM sub-sector to advance sector formalization and address revenue mobilization challenges.

21. **Collaborative efforts between government agencies have led to better coordination of plans and strategies toward sustainable cocoa production at the national level.** Several initiatives (funded both by the private sector and by Ghana's development partners) are working in the cocoa supply chain to increase dialogue, improve productivity and returns to farmers, and reduce environmental degradation. The GoG also supports initiatives to reduce cocoa frontier expansion by providing incentives for rejuvenating old cocoa plantations and bringing old cocoa fallows under more sustainable agroforestry-based cultivation. The collaboration between the MLNR, the Forestry Commission (FC), and the Ghana Cocoa Board (COCOBOD) has resulted in a dialogue process that established the Cocoa and Forests Initiative (CFI), a government partnership of governments of Ghana and Cote d'Ivoire with 35[24] leading global cocoa and chocolate companies to end deforestation and forest degradation driven by cocoa production in Ghana. More harmonization is needed in production and traceability of sustainable cocoa supply chains, as several different standards are in use.

22. **The GoG has initiated ASM regularization to enhance regulatory compliance.** In early 2017, the GoG imposed a moratorium on both ASM licensing and production. As the moratorium was gradually lifted in 2017–2018, two government initiatives were launched: (a) the Inter-Ministerial Committee on Illegal Mining (IMCIM) to coordinate an interagency response to curb informal operations and (b) the Multi-Sectoral Mining Integrated Project (MMIP) to build a comprehensive strategy for sustainable SSM in conjunction with other livelihood options. The proposed project draws on priority interventions identified in the MMIP, while recognizing that the MMIP is broader in scope and requires a larger effort than that supported by the project to achieve its objectives.

23. **Civil society engagement and dialogue on the natural resource sectors, climate change, and the REDD+[25] process have been increasing.** In 2010, the Civil Society Review of the Natural Resources and Environment Sector was established to provide a forum for inputs of civil society organizations (CSOs) into the Government's own review of the sector. The National Forest Forum is a platform to influence policy formulation, promote good governance and sustainable forest management, and reduce deforestation.

24. **There is increasing awareness for cross-sectoral links for sustainable use of natural resources and their contribution to national and local economies.**[26] Approaches, policies, and regulations that are seemingly designed for meeting sub-sectoral objectives cannot deliver on holistic management of natural resources when the challenges are cross-sectoral and sectoral trade-offs are inevitable.

[23] A CREMA is a geographically defined area that includes communities that agree to manage land use and natural resources in a sustainable manner for production and conservation purposes.
[24] As of May 2021.
[25] REDD+ stands for Reduced Emissions from Deforestation and Forest Degradation and the Role of Conservation, Sustainable Management of Forests, and Enhancement of Forest Carbon Stocks in Developing Countries.
[26] Forest Smart Mining studies, Forest Action Plan, Sustainable Land Management Sourcebook.

25. **There is also increasing recognition that integrated landscape management (ILM) can offer solutions to challenges that cut across several sectors.** Since 2008, the GoG has adopted a programmatic approach to address land degradation and the promotion of Sustainable Land Management (SLM) practices, through the Ghana Strategic Investment Framework (GSIF) for SLM (2011–25). The GSIF recognized the need to move beyond single-sector interventions to a more integrated approach by considering both the geographic and socioeconomic aspects to connect forestlands (protected areas [PA] and FRs, croplands, woodlands, and rangelands), to help secure a robust mix of interventions that promote primary and secondary ecosystem services.

26. **There is an opportunity to reverse the land and forest degradation trend through an ILM approach—**one that focuses on agricultural productivity, sustainable SSM, and sustainable forest and water resource management. Ghana has tested these approaches in select districts in the NSZ and has shown proof of concept of the integrated approach and results it can yield for community livelihoods and slowing the pace of degradation.

27. **The proposed Ghana Landscape Restoration and Small-Scale Mining Project (GLRSSMP) will build on these early experiences of ILM by taking holistic action against land degradation.** Holistic management of natural resources, including land, forest, and minerals, at the landscape level can address degradation and enhance livelihoods for populations that depend on them. Sustainable land-use, production, and management practices will be inculcated and enhanced through the provision of adequate support mechanisms, payments for ecosystem services, value-added agroforestry, appropriate ASM techniques and regulations, institutional capacity, and compliance monitoring.

28. **As part of COVID-19 recovery, support to improved productivity for agriculture (cocoa and food crops), ASM that delivers more sustainable benefits, and natural resource-based sustainable alternative livelihoods are directly relevant** for mitigating future risks while providing meaningful support to efforts aimed at preserving biodiversity in the target areas and reducing human exposure to zoonotic diseases. For example, studies show that reliance on bushmeat harvesting for income provides a safety net function and is higher in communities during post cocoa season, or where on-farm productivity is low.

C. Relevance to Higher Level Objectives

29. **This proposed project is fully consistent with the World Bank Group's (WBG) corporate goals—** to end extreme poverty and to promote shared prosperity, with environmental, social, and fiscal sustainability. The project is also aligned with the recently updated Ghana Systematic Country Diagnostic (2018, report No. 132010-GH). The Systematic Country Diagnostic recognizes natural resources production and exports to be the backbone of Ghana’s economy and the main driver of growth. A new Country Partnership Framework (CPF) 2022–2026 is under preparation and is expected to be delivered in early FY22—the project responds to the following challenges identified in the new CPF: (a) strengthening natural resource management; (b) raising agricultural productivity; and (c) mitigating impacts from climate change. The project falls under draft CPF proposed Focus Area 2: Improving Inclusive Service Delivery and Focus Area 3: Promoting Resilient and Sustainable Development.

30. **The project is consistent with the WBG COVID-19 Crisis Response Approach**,[27] in particular Pillar 2 (Protecting Poor and Vulnerable People) and Pillar 4 (Strengthening Policies, Institutions and Investments for Rebuilding Better) as it contributes to enhancing livelihoods of poor rural communities, resilient recovery, and rebuilding better.

31. **The project aligns with the WBG's high-level priorities on climate change.**[28] The project will contribute toward addressing priorities of the WBG's Climate Change Action Plan (2016) and the World Bank's Next Generation Africa Climate Change Business Plan,[29] under Strategic Direction I: Food Security and a Resilient Rural Economy and Strategic Direction II: Ecosystem Stability and Water Security. The project will also promote forest-smart interventions in the ASM sector in line with the World Bank's Forest-Smart Mining Initiative and informed by recommendations from the World Bank report: Forest-Smart Mining: Identifying Good and Bad Practices and Policy Responses for Artisanal and Small-Scale Mining in Forest Landscapes.[30]

32. **The project fits with the objectives of the GoG Coordinated Programme of Economic and Social Development Policies (CPESDP) 2017–2024.** Under the CPESDP, the Government aims to double per capita GDP by 2024. The CPESDP identifies seven priority programs, one of which is Transforming Agriculture and Industry. Significantly, the proposed project is also fully aligned with key GoG policies such as Forest and Wildlife Policy (2012), National Riparian Buffer Zone Policy (2011), National Climate Change Policy (2013), National Land Policy (1999), National Biodiversity Strategy and Action Plan (2014), National Environment Policy (2013), the Food and Agriculture Sector Development Policy (2007), the Tree Crops Policy, and the Cocoa Sector Development Strategy II.

33. **The project is responsive to the Ghana National Gender Policy, WBG Gender Strategy 2016–2023, and the Global Environment Facility (GEF) Policy on Gender Mainstreaming.** The project design includes targeted interventions for improving ownership and control over assets, enhancing women's role in local-level forest and landscape management institutions, and creating better income-generating opportunities for women. The project will pay particular attention to the factors that may impede women from participating in productive activities in forest and mining landscapes and other value-added activities.

[27] World Bank. 2020. "Saving Lives, Scaling-up Impact and Getting Back on Track: World Bank Group COVID-19 Crisis Response Approach Paper."
[28] http://documents.worldbank.org/curated/en/697881563778032139/pdf/IDA19-Second-Replenishment-Meeting-Special-Theme-Climate-Change.pdf.
[29] World Bank. 2020. *The Next Generation Africa Climate Business Plan: Ramping Up Development-Centered Climate Action*. Washington DC: World Bank.
[30] World Bank Group. 2019. *Forest-Smart Mining: Identifying Good and Bad Practices and Policy Responses for Artisanal and Small-Scale Mining in Forest Landscapes.* World Bank, Washington, DC.

34. **Notably, the project will contribute to Ghana's set national voluntary Land Degradation Neutrality target[31] and Ghana's AFR100 commitment.[32]** Project support will also contribute to Ghana's progress on the 2020 Aichi Biodiversity targets[33] under the Convention of Biological Diversity and the objectives of Ghana's National Biodiversity Strategy and Action Plan.[34]

35. **The project supports the GoG's participation under the GEF-7 Food Systems, Land Use and Restoration (FOLUR) Impact Program,**[35] through programming Ghana's GEF-7 resources to implement multi-stakeholder ILM approaches to mitigate impacts on ecosystems and their services. Specifically, the project will contribute to (a) promotion of sustainable food systems through improving yields of staple food crops and produce for the market, resulting in increased food security and resilience to shocks; (b) promotion of deforestation-free commodity supply chains, through improving cocoa productivity and investments in climate-smart cocoa farm approaches and decreasing cocoa-driven deforestation and related emissions; and (c) landscape-level restoration for production and ecosystem services through improving agroecosystem goods and services, addressing direct drivers of habitat destruction to protect habitats, and monitoring impacts of restoration on ecosystems and their services.

36. **The proposed project is expected to contribute to the mitigation and adaptation objectives of Ghana's Nationally Determined Contributions (NDCs) to the Paris Climate Agreement[36]** which features (a) sustainable land use including food security and (b) sustainable forest management as priority sectors for mitigation and adaptation. The NDCs place a strong emphasis on adaptation to ensure that all people and communities are resilient to climate impacts. Sustainable land use, including food security, and sustainable forest management have been identified as two priority sectors in the NDCs.[37]

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[31] Ghana's national Land Degradation Neutrality targets by 2030 include (a) reforestation of 882.86 km^2 of converted forest; (b) reduced conversion of 45,079.72 km^2 of remaining forest to other types of vegetation and halt all illegal mining activities; (c) increase in soil organic carbon of degraded crop lands and rangelands from 1.2 percent to 2 percent; (d) restoration and sustainable management of 4,593.39 km^2 of degraded shrubs, grasslands, and sparsely vegetated areas for improved productivity and reduction of fires; and (e) improvement of productivity and soil organic carbon stocks in 18,475.96 km^2 of cropland.

[3232] The three main pillars for the implementation of the AFR100 in Ghana include the following, all of which form part of activities under the PROGREEN support: (a) Forest Plantations Establishment (includes commercial and smallholder plantations by the Government and private sector, seed orchards, woodlots, environmental plantings, that is, watershed planting, mined site restoration, and so on); (b) Enrichment Planting (targeting mainly on degraded FRs, degraded agricultural landscape, degraded mountains and hilly areas, and degraded sacred groves using mostly indigenous tree seedlings); and (c) Agroforestry (Trees-on-farm)—targeted at incorporating trees within agricultural landscapes.

[33] Under Strategic Goal A (Address the underlying causes of biodiversity loss by mainstreaming biodiversity across government and society), Strategic Goal B (Reduce the direct pressures on biodiversity and promote sustainable use), and Strategic Goal D (Enhance the benefits to all from biodiversity and ecosystem services).

[34] Target 1: Create public awareness of the values of biodiversity to promote conservation, restoration and sustainable usage; Target 11: Ensuring that at least 17 per cent of terrestrial and inland water and 10 per cent of coastal and marine areas are conserved through systems of protected areas (Aichi Target 11); Target 14: Restoring and safeguarding ecosystems that provide essential services, including ecosystem services (Aichi Target 14); Target 15: Enhancing ecosystem resilience and restoration to promote the contribution of biodiversity conservation to carbon stocks and ensure restoration of at least 15 per cent of degraded ecosystems; and Target 7: By 2020 areas under agriculture, aquaculture and forestry managed sustainably, to ensure conservation of biodiversity.

[35] Blended project - Landscape Restoration and Ecosystem Management for Sustainable Food Systems Project GE (P172386).

[36] http://www4.unfccc.int/submissions/INDC/Published%20Documents/Ghana/1/GH_INDC_2392015.pdf.

[37] Ghana's NDC include actions that Ghana has committed to undertake as part of its climate change mitigation and adaptation agenda. The implementation of the actions is expected to help attain low carbon climate resilience through effective adaptation

37. **Ghana's National REDD+ Strategy provides the basis for action on the project.** This strategy aims to (a) significantly reduce emissions from deforestation and forest degradation by targeting the key drivers; (b) tackle threats that undermine ecosystem services and environmental integrity; and (c) create platforms of action for low emissions development and implementation of the national climate change agenda. The project targets, in a comprehensive approach, all major identified drivers of deforestation and degradation in the target landscapes and, through support to policy and institutional reform, at the national level.

II. PROJECT DESCRIPTION

38. **The project will focus on the following core interventions:** (a) land-use planning for ILM to optimize land use; (b) formalization of ASM for sustainable mining; (c) restoration of degraded lands for agricultural productivity; and (d) strengthening of sustainable management of forest landscapes for biodiversity conservation and ecosystem services. With a view to enhancing integrated management, the project aims to place landscape and mining sector management on a trajectory that would transition from degraded landscapes, poverty, and low productivity toward one with high-productivity and resilient landscapes, livelihoods, and high economic returns.

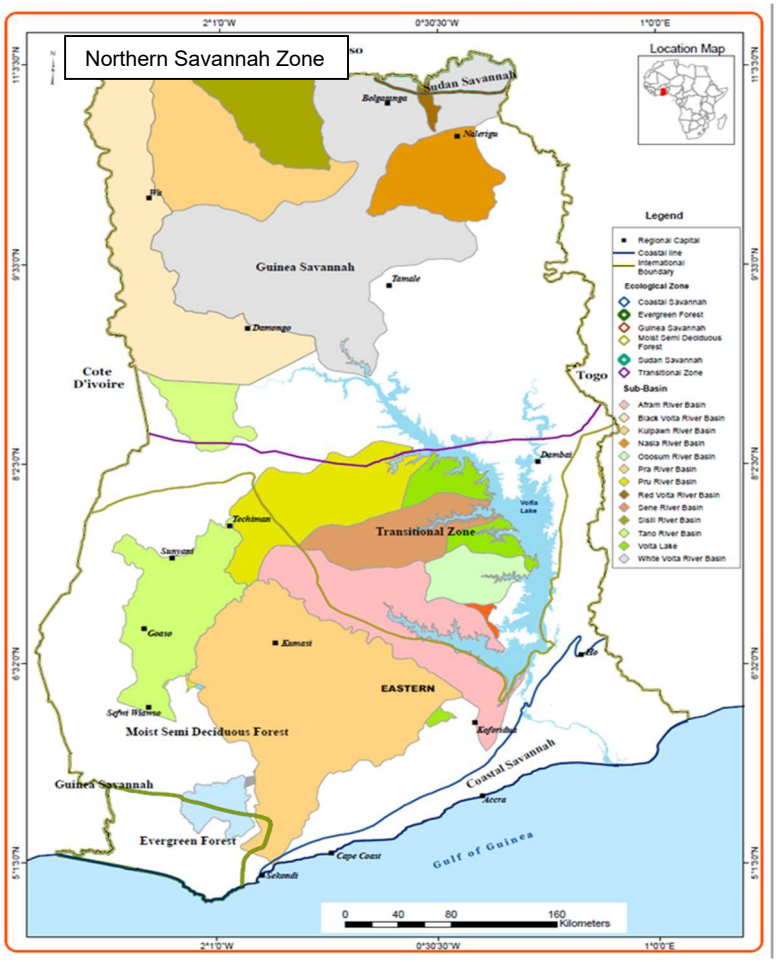
39. **The project will target interventions in agriculture, forest, and mining,** scaling up and innovating new incentive mechanisms, restoration models in agriculture, replication of technologies, and CREMA establishment in the wildlife corridors while ensuring complementarities with other government and multi-partner initiatives. The project will help boost post-COVID-19 economic recovery and create jobs and secure livelihoods, including in some of the poorest parts of Ghana. Given the climate risks in the country, climate impacts will be fully considered in all of the project components.

40. **Geographically, the project will be implemented in two landscapes:** the NSZ (including the Guinea Savannah ecological zone, the Sudan Savannah ecological zone, and the upper portions of the Transitional ecological zone) and the cocoa forest landscape (including parts of the Forest ecological zone and lower parts of the Transition ecological zone, which also includes the Pra River Basin). Overall project planning will use the sub-basin approach, focused on 13 target sub-basins (Figure 1). In the NSZ, project activities will focus on the sub-watersheds of two Volta River tributaries flowing into the country from Burkina Faso to concentrate impacts and affect outcomes at the sub-watershed level. The Kulpawn-Sisilli and the Red Volta sub-watersheds have been prioritized due to sustainable land and water management (SLWM) needs, high poverty, and presence of biodiversity corridors and newly established CREMAs. In the cocoa forest landscape, project investments will concentrate largely within the Pra River Basin.[38]

and greenhouse gas (GHG) emission reduction in the following priority sectors: (a) sustainable land use including food security, (b) climate-proof infrastructure, (c) equitable social development, (d) sustainable mass transportation, (e) sustainable energy security, (f) sustainable forest management, and (g) alternative urban waste management.

[38] The GEF financing will be limited to the Pra basin investments only. IDA investments will have a broader geographic scope in the cocoa forest landscape.

Figure 1. Project Target Landscapes and Sub-Basins



Source: Environmental Protection Agency (EPA).

41. **Targeted areas will include rural districts in the NSZ and the cocoa forest landscape,** selected based on their location within biological corridors, land degradation, and pressures from ASM. Districts in the NSZ have been prioritized based on their potential to intensify successful impacts of local livelihoods achieved under the ongoing Sustainable Land and Water Management Project (SLWMP). Districts in the cocoa forest landscape have been prioritized based on results from ongoing initiatives and in alignment with the focus of FOLUR on the cocoa value chain. The target areas for geological surveys, mining rehabilitation, and other specific SSM interventions will include Prestea-Huni Valley, East Akim, Assin North, Bole, Amansie South districts and Tarkwa Nsuaem municipality as well as other areas to be selected based on agreed criteria developed during project implementation. . See annex 8 for the project area map. Annex 2 includes a list of target sub-basins and target districts and annex 4 provides further details on the GEF priority areas.

A. Project Development Objective

PDO Statement

42. The Project Development Objective (PDO) is to strengthen integrated natural resource management and increase benefits to communities in targeted savannah and cocoa forest landscapes.

PDO Level Indicators

43. Achievement of the PDO will be measured through the following outcome indicators:

To strengthen integrated natural resource management

(a) Areas for which appropriate land use planning has been undertaken under spatial sub-basin plans (ha)

(b) Land area under sustainable landscape management practices (as an aggregation of the following practices) (ha)
- Area under conservation agriculture
- Trees in production landscapes outside of forests
- Area under collaborative, integrated and innovative management and with improved climate resilience (CREMAs)
- Area under improved catchment management (riparian vegetation)
- Area under sustainable forest management as a result of the project (in FRs and wildlife PAs)
- Abandoned mine areas restored

(c) Licenses issued for ASM operations (number)

(d) Environmental and social (E&S) management system for ASM established and operational (yes/no)

To increase benefits to communities

(e) People in targeted areas with increased benefits as a result of the project (number) (disaggregated by (i) SLM practices; (ii) alternative livelihoods (number); (iii) female; (iv) and youth (number).

B. Project Components

44. **Key design elements.** The project design has a two-fold focus.

(a) Enhance landscape management planning at decentralized levels that cuts across administrative boundaries, multiple sectors, and multiple land uses in the target sub-basins within the savannah and cocoa forest areas. The actions envisaged through such planning will be mainstreamed into and implemented through the GoG midterm development plans (at the district level) to ensure synergies with government-led development planning.

(b) Scale up land-use-specific interventions for land restoration and food and cash crops production linked to livelihoods, both in the NSZ and the South-Central Region forest zones of the cocoa forest landscapes.

45. **The project will be funded with a blend of IDA credit and grant financing from GEF (TF0B5958), the Global Partnership for Sustainable and Resilient Landscapes Multi-donor Trust Fund (PROGREEN) (TF0B5979), and the Extractives Global Programmatic Support (EGPS) Multi-donor Trust Fund (TF0B5977).**[39] Table 1 provides a summary of financing by component. The GoG contribution will be provided in kind and will finance the time of the staff assigned for project implementation, as well as the cost of running the offices (such as utilities and maintenance costs) used for the project. Annex 2 provides a detailed description of the project activities. The project will finance required goods, small works, non-consulting services, consulting services, trainings, and incremental operating costs.

Table 1. Component Costs (US$, millions)

Component/Subcomponent	Total Cost	IDA	GEF	PROGREEN	EGPS
Component 1. Institutional strengthening for participatory landscape management					
1.1. Integrated landscape management planning and monitoring	6.11	3.28	2.30	0.53	0.00
1.2. Enabling environment for restoration activities, sustainable production, and value chains within the landscape	1.52	0.80	0.21	0.51	0.00
1.3. Airborne geo-physics and geological surveys	6.58	6.58	—	—	0.00
Component 1 Total	**14.21**	**10.66**	**2.51**	**1.04**	**0.00**
Component 2. Enhanced governance in support of sustainable ASM					
2.1. Regulatory strengthening and formalization of ASM	8.92	8.32	0.00	0.00	0.60
2.2. Training and technology transfer	5.68	5.68	0.00	0.00	0.00
2.3. Traceability of ASM production and value addition	2.88	2.88	0.00	0.00	0.00
Component 2 Total	**17.48**	**16.88**	**0.00**	**0.00**	**0.60**
Component 3. Sustainable crop and forest landscape management					
3.1. Planning, capacity, and implementation of SLWM in target micro-watersheds	30.38	16.53	6.83	7.02	0.00
3.2. Value addition, market access, and income diversification	6.50	3.83	1.30	1.37	0.00
3.3. Forest management planning and investments in and around FRs	7.85	4.88	1.01	1.96	0.00
3.4. Management of wildlife PAs and biological corridors	7.51	4.98	0.00	2.53	0.00
3.5. Reclamation of mined out sites and alternative livelihoods	8.04	8.04	0.00	0.00	0.00
Component 3 Total	**60.28**	**38.26**	**9.14**	**12.88**	**0.00**
Component 4. Project monitoring and knowledge management					

[39] The EGPS grant has a closing date of December 31, 2023; the PROGREEN grant has a closing date of July 31, 2026.

Component/Subcomponent	Total Cost	IDA	GEF	PROGREEN	EGPS
4.1. Project monitoring and knowledge management (EPA PCU)	5.39	3.20	1.11	1.08	0.00
4.2. Project monitoring (MLNR PCU), including project preparation financing (PPF)	6.00	6.00	0.00	0.00	0.00
Component 4 Total	**11.39**	**9.20**	**1.11**	**1.08**	**0.00**
Component 5. Contingent Emergency Response	0.00	0.00	0.00	0.00	0.00
Project total	**103.36**	**75.00**	**12.76**	**15.00**	**0.60**

Note: EPA = Environmental Protection Agency; PCU = Project Coordinating Unit.

Component 1. Institutional Strengthening for Participatory Landscape Management[40] (US$14.21 million, including IDA US$10.66 million, GEF US$2.51 million, PROGREEN US$1.04 million)

46. The component aims to strengthen the planning and policy framework by carrying out spatial planning and implementation at the sub-basin level, policy support, and capacity building, working with administrative and technical agencies located within the regions and districts that are within the 13 target sub-basins in the project area. Support is included for ILM planning and fostering partnerships to support the adoption of sustainable landscape management approaches at scale within project areas. This component will also enhance multipurpose land and water management models at the national level through the acquisition of remote sensing data and geological surveys which will allow the production of updated maps with additional layers of information. It will also support the development of spatial planning tools for mapping and monitoring impacts and effective monitoring of sustainable cocoa production.

Component 2. Enhanced Governance in Support of Sustainable ASM (US$17.48 million, including US$16.88 million from IDA and US$0.60 million from EGPS)

47. This component aims to strengthen the regulatory framework for ASM, with a focus on modernizing regulatory instruments and building the capacity of key government agencies involved in ASM regulation and compliance monitoring (such as Minerals Commission [MC], FC, and EPA) as well as district management committees. It will also support ASM formalization through (a) reclassification of small- and medium-scale mining licenses and registration of license holders; (b) streamlining ASM administration; and (c) enhancing district capacity to manage ASM. Once the updated regulatory framework has been established, this component will also invest in improving the capacity of ASM operators, by providing training on sustainable and forest-smart mining techniques which will draw on the analytics and modelling of Component 1. Activities will support enterprise skills, establishment of cooperatives, and promotion of market links to help ASM gold miners get better value for their output. In tandem with EGPS support to core areas of national EITI implementation, this component will also support the inclusion of ASM under Ghana EITI to advance sector formalization and accountability. Activities will finance stakeholder consultations and awareness raising on mainstreaming ASM into the EITI reporting framework as well as the development of ASM sector assessments and guidelines as part of EITI reporting. Activities will also support IT system upgrades to address vulnerabilities in ASM revenue collection,

[40] Institutional strengthening of governance and partnerships includes key agencies and stakeholders that are relevant to integrated landscape management and overall delivery of the PDO.

enhance fiscal compliance, and strengthen community platforms for dialogue about ASM in project communities.

Component 3: Sustainable Crop and Forest Landscape Management (US$60.28 million; including IDA US$38.26 million, GEF US$9.14 million, PROGREEN US$12.88 million)

48. This component aims to link improved food production and ecological integrity through investments in production and forest landscapes through the promotion of climate-smart agriculture, conservation, and restoration activities. Activities are aligned with the FOLUR and PROGREEN frameworks to promote sustainable food systems and agriculture value chains. This component will play a pivotal role in boosting green recovery of rural livelihoods in target forested areas.

49. This component will support sustainable practices in production landscapes for key food crops; value chains for key commodity crops, including cocoa, shea nut, and cashew; value addition for food crops; sustainable water and land management interventions, including silvo-pastoral and riparian vegetation establishment activities; income generation and income diversification at the community level with a view to integrated natural resource management in the target cocoa, savannah, and forest transition zone landscapes; and regular monitoring of these interventions. It will also support investments into improved management of FRs and their buffer zones, including reforestation, regeneration, and wildfire management; engagement with admitted farms and farmers;[41] and support to sustainable livelihoods of target communities that would reduce consumptive pressures on forests. The project will support investments in forested landscapes within PAs and their buffer zones, both to improve effectiveness of their management and to enhance ecotourism opportunities therein and support to community-driven forest conservation in off-reserve areas within the biological corridors, including under the CREMA arrangements. In view of the growing significance of mining as a driver of forest loss and impacts of mining on waterways, the component will also support appropriate forest landscape restoration opportunities and reclamation of mined out areas as well as provide alternative livelihoods support to miners to help them create sources of income to replace mining.

Component 4: Project Monitoring and Knowledge Management (US$11.39 million, including US$9.20 million from IDA, US$1.11 million from GEF, and US$1.08 million from PROGREEN)

50. These costs include the PPF received by the MLNR from IDA (US$3 million) and used to support project preparation activities to help project readiness for project management.

51. This component aims to support robust project management and monitoring (including financial, internal audit, and procurement management; monitoring and evaluation [M&E]; E&S risk management; supervision, implementation, and monitoring of the grievance redress mechanism [GRM]; monitoring implementation of the Gender Action Plan; and so on); better communication outreach and dissemination; appropriate stakeholder engagement; and adequate knowledge management. This component will have two subcomponents, each led by a respective PCU, at EPA and MLNR.

[41] Farmers or cultivators who had their farms in FR areas before their designation as reserves and they are entitled to continue to farm in designated areas" (Handbook for Paralegals in Ghana, CEPIL, 2009).

Component 5. Contingent Emergency Response Component

52. A Contingent Emergency Response Component (CERC) with zero allocation will be created and made implementation-ready to allow the GoG to respond quickly in case of an eligible emergency. The mechanism has been defined in a specific CERC Operational Manual that clearly outlines the triggers, eligible expenditures, procurement thresholds, and procedures for using part of IDA resources of the project to respond quickly in the event of an eligible emergency.

GEF Incremental Reasoning

53. **The GEF resources, with a focus on the cocoa forest landscape in the Pra River Basin**, will complement IDA financing to foster an integrated sub-basin watershed management approach and will place emphasis on the integration and coherence of the baseline efforts to bring visible transformations in Ghana's degraded landscapes, including the cocoa forest landscapes. As a fully blended project, the IDA resources (US$75.00 million, of which US$30.00 million provide support in the cocoa forest landscapes and at the institutional/policy level) and GEF-7 System for Transparent Allocation of Resources (STAR) and impact program incentive resources (US$12.76 million) will complement and build upon a strong baseline of investments from the World Bank portfolio in Ghana[42] (Forest Investment Program [FIP], and Emissions Reduction Program/Ghana Cocoa Forest REDD+ Program). Project design interventions are expected to support the mobilization of the private sector through engagement with signatories of the CFI, some of which are already partnering in the implementation of the pilot Emissions Reductions Program in the High Forest Zone. Implementation will be synergistic with the upcoming World Bank's Cocoa Value Chain Development Project led by the Agriculture Global Practice and will build upon the lessons and best practices emerging from the ongoing SLWMP[43] in the NSZ and the Dedicated Grant Mechanism for Local Communities Project in the High Forest Zone.

54. **Significantly, the GEF financing for the project is aligned with the GEF-7 focal area objectives and is programmed under FOLUR.** It aims to advance the global environmental sustainability agenda by demonstrating integrated models of sustainable commodity production, biodiversity conservation, and landscape restoration. Existing initiatives in the cocoa forest landscapes follow the implementation approach through the hot spot intervention areas which aims to promote climate-smart agriculture, including intensifying cocoa production, for increasing yields and improving smallholder livelihoods through strong participation of smallholder farmers. Working directly with communities and the private sector actors, these models can be adapted and replicated across the cocoa forest landscapes in the nearby regions of Ghana, as well as globally for cocoa and a range of other globally relevant commodities. Overall, the proposed interventions in the cocoa forest landscapes will be aligned with FOLUR's Theory of Change that emphasizes support to sub-basin development planning and the landscape management approach which links to food production, biodiversity conservation, and restoration of degraded lands. The added value of GEF financing would be to support zero-deforestation cocoa production in the targeted cocoa forest landscapes within the Transition Zone through COCOBOD and by working closely with the CFI. Support would include promoting sustainable cocoa practices such as hand-pollination, shaded cocoa (trees on farms), mulching, rehabilitation of moribund cocoa farms, improved seedlings,

[42] Only relevant costs contributing to the project have been considered for GEF incremental purposes.
[43] The SLWMP is financed through a series of GEF allocations to Ghana, under GEF-4, GEF-5, and GEF-6 (under the Integrated Approach Pilot program on Fostering Sustainability and Resilience for Food Security in Sub-Saharan Africa).

and so on. Activities would be informed by the ongoing FIP and Dedicated Grant Mechanism project. The objective here is to avoid extension of cocoa farms into forests while increasing productivity and enhancing quality of cocoa beans, as the majority of cocoa beans are meant for export. See more details in annex 4.

55. **Analysis of longer-term COVID-19 impacts in target landscapes will continue to inform project implementation.** However, it is evident that as macroeconomic conditions worsen, the proposed interventions for strengthening the resilience of crop production and alternative livelihoods activities will help create safety nets for the most vulnerable rural communities, improve economic resilience of project beneficiaries, and contribute to the midterm agenda for post COVID-19 recovery. The project will invest in improving water infrastructure on community land (through construction of dugouts) to ensure communities do not have to go deep into the forests to water their livestock and needlessly expose themselves to zoonotic diseases. The informal nature of ASM and the low barriers to entry mean that there is a potential for increased ASM activity in response to the economic impact of the virus on the formal economy, project support to strengthening the regulatory side, and the alternative livelihood activities mitigate some of the COVID-19 risks already foreseen. The project will contribute toward medium- to long-term economic and social development during the post-COVID-19 recovery phase, focusing on the elements of job creation and increased productivity.

56. **Gender.** The project's approach to closing gender gaps through project design is fully consistent with the WBG's Gender Strategy and the GEF Policy on Gender Mainstreaming.[44] As part of the project design, a gender gap analysis was conducted to provide insight into existing gender disparities in the target areas and to inform project design (annex 3). These key gaps relate to (a) weak participation in decision-making; (b) lack of access to credit and other productive resources; (c) poor access to training and capacity-building activities; (d) lack of ownership in non-timber forest products (NTFPs); (e) difficulties acquiring licenses for ASM; (f) insufficient control over alternative livelihoods; (g) an absence of appropriate skills for the use of equipment and technology including value addition activities to gold and agricultural outputs; and (h) higher and disproportionate risks to women's health. The project therefore places particular emphasis on greater involvement of women in participation in the planning and decision-making structures at the community level (community watershed management teams [CWMTs]) and Community Resource Management Committees (CRMCs) and in the implementation of sub-projects. The PDO indicator on beneficiaries of SLM practices and alternative livelihoods activities is disaggregated to track the percentage of women participants; the same applies to two intermediate results indicators in the project's Results Framework. Intermediate indicators for Component 3 also include specific indicators to measure the project's progress with women inclusion within community-level resource management bodies.

57. **The role of women in managing forests, trees, and agricultural landscapes has been carefully considered in the project design.** Participatory consultation, activity planning, training, and decision-making processes will be designed to accommodate women's participation and to consider women's concerns, differential access to resources and information, and potential vulnerabilities of women and

[44] World Bank Group. 2015. *World Bank Group Gender Strategy (FY2016–23): Gender Equality, Poverty Reduction, and Inclusive Growth*.

other disadvantaged groups. The selection of intervention locations and their formulation will be provided sustained attention during implementation.

58. **While women occupy a substantial part of ASM labor and participate in various jobs, they receive less benefits as compared to men.** Statistics show that the presence of women in the ASM sector is high. Women account for approximately 4 percent of the SSM license holders, about 22 percent of the licensed artisanal and small-scale miners, and 51 percent of the national population.[45] Out of the 551 licensed gold buyers, seven are women (1.3 percent), 75 percent of the small-scale salt mining workforce, and 80 percent of stone quarry workers are women.[46] Women tend to hold the lowest-paying and more precarious jobs in mining, have less access to formal training, and have less access to credit. In addition, women's health is disproportionately harmed because of lower levels of education, less access to protective equipment, and less access to information about safe working practices.[47] Women suffer injuries and body pains in the form of cuts, sprains, and fractures from falling. The project intends to involve women in value-addition skills training in the gold sector and identify alternative livelihoods that provide a comparable income to the ASM sector while exposing them to less risks. Support to demonstration and incubation centers will also allow women operators to adopt new technologies. Transparency efforts involving the traceability of the ASM value chain will provide more information on the full extent of the gender gaps in the sector. Efforts will be made to disaggregate the data according to gender, where relevant. Moreover, it is important to design a gender-inclusive and responsive ASM policy at the national level as suggested by the gender analysis. Project support will complement parallel efforts to promote gender inclusivity in the extractive industry, including the development of a gender strategy that mainstreams gender considerations as part of Ghana's EITI reporting.

59. **The project support will contribute greatly to strengthening economic and adaptive resilience of participating households through improvements in landscape management and in the productivity of forests and landscapes.** Making strategic shifts for better-managed natural resources will improve climate resilience by reducing the risks to extreme vagaries of weather and climate change, improve food and water security, and provide sustainable income streams. This will be achieved, among others, through strengthening the asset base of rural farmers (including natural capital through improved soil fertility and financial capital through increased gains as a result of enhanced yields and value addition), increasing the diversity of smallholder farming systems (through the promotion of mixed cropping-livestock systems and diversification of crops including a focus on root and tuber crops), promoting equity and inclusion of vulnerable and marginalized groups (especially women), enhancing local institutions (through establishment of CWMTs, CRMCs, CREMAs, and support to village savings and loans association [VSLA]), and improving the availability of and smallholder access to climate information (through awareness and training/demonstration activities and knowledge exchanges).

[45] Minerals Commission, Ghana, 2014.
[46] Arthur-Holmes, F., and K. A. Busia. 2020. "Household Dynamics and the Bargaining Power of Women in Artisanal and Small-Scale Mining in Sub-Saharan Africa: A Ghanaian Case Study. *Resources Policy* 69 (101884); Kumah, C., G. Hilson, and I. Quaicoe. 2020. Poverty, Adaptation and Vulnerability: An Assessment of Women's Work in Ghana's Artisanal Gold Mining Sector. *Area* 52 (3): 617–625; and Hilson, G., Y. Hu, and C. Kumah. 2020. "Locating Female 'Voices' in the Minamata Convention on Mercury in Sub-Saharan Africa: The Case of Ghana." *Environmental Science and Policy* 107: 123–136.
[47] Hinton, Jennifer. 2005. *Communities and Small-Scale Mining: An Integrated Review for Development Planning*. World Bank Group.

60. **The project has been designed to advance the absorptive, adaptive, and transformative capacity of the landscape as a whole and the communities that depend on these landscape resources (see annex 7 for the project resilience map).** By focusing on improving management of forested and agricultural landscapes to ensure they can continue to generate revenues and provide important environmental services, the project contributes mainly to the following attributes: (a) robustness of physical infrastructure through strengthening institutional capacities through improvement in management of these areas and investing in community water infrastructure; (b) redundancy by fostering the availability of supplemental services through restoration, natural regeneration, and enrichment planting; (c) learning by providing training and skills development to participate and benefit from forest and landscape management; and (d) inclusion by supporting women to participate and take leadership roles, fostering community engagement.

61. **By encouraging the establishment of greater tree cover and supporting efforts to avoid forest degradation, as well as supporting sustainable forest management and landscape resilience on public and customary land**, the project contributes mainly to the following attributes: (a) robustness by supporting the development of community management plans; (b) diversity by developing mixed-use SLWM systems on household plots and community lands; and (c) redundancy by fostering supplementary revenue through support to the value chains. By supporting establishment and operation of community resources management groups, the project contributes to the self-organization attribute of resilience. By supporting value chains, encouraging partnerships with the private sector, and exploring market access for targeted commodities, the project will contribute to the attribute of connectedness (as communities will access more resources and better adapt to economic shocks).

62. **Maximizing finance for development.** Project design interventions are expected to support the mobilization of the private sector, including (a) cocoa and chocolate companies (members of the World Cocoa Foundation [WCF]) which are by and large also signatories of the CFI and some of them are already engaging in the emission reduction program in the High Forest Zone and (b) cashew value chain private sector actors. Investments in cashew production are expected to lead to investments in pre-export processing and local processing facilities for cashew nuts, and the program will provide support to strengthen the link of new cashew producer groups to reliable buyers/traders and processors. On the cocoa side, development and institutionalization of the climate smart cocoa standard would attract sustainable investments from the private sector, including international consortia.

63. The project's multipronged approach to restore damaged lands, promote responsible agricultural practices, and formalize thousands of informal artisanal miners will remove regulatory and physical constraints to private investments in the targeted rural areas of Ghana. The project will support the review of institutional and regulatory barriers which inhibit local entrepreneurs from timely approval of mining investment applications due to overlapping or fragmented approval processes for mining licenses. Among others, the project plans to introduce a new 'medium-scale mining license' which paves the way for more sustainable and long-term investments, subject to compliance with applicable safeguard requirements. This particular regulatory change, combined with institutional strengthening of the responsible government agencies, is expected to lead to increased private investment at scale already in the near term. The project will seek to encourage private sector involvement particularly in the areas of access to credit and support to incubation centers for the development of small and medium enterprises in the agriculture and mining sectors and provide other alternative livelihoods within the project's lifetime.

C. Project Beneficiaries

64. **The main beneficiaries of the proposed project are small-scale crop farmers investing in improved practices for crop production and landscape planning and management and ASM operators who will benefit from enhanced productivity due to formalization, introduction of new technologies, and alternative livelihoods support.** Moreover, communities living in areas affected by ASM activities will benefit from better E&S stewardship. The target communities will enjoy multiple benefits due to participation in the planning and management of the resources, improved yields for subsistence and cash crops, higher incomes as a result of better value addition, and enhanced ecosystem services provided by the landscapes, such as watershed protection, better water availability and quality, and reduced soil erosion. Support to livelihoods activities will create gainful employment. The tourism-related benefits will accrue to both the PAs system and the neighboring communities.

65. **The GoG agencies in the natural resources sector and their staff (mainly EPA, FC, MC, COCOBOD, Ghana Geological Survey Authority [GGSA], and MoFA) will benefit from improved capacity for service delivery.** Both government staff and local communities will benefit from better knowledge of gender-responsive approaches to sustainable natural resources management. The project will support higher inclusion and participation of women.

66. **Expected project impacts**. The proposed project is expected to provide the following types of benefits:

(a) Local benefits, such as increased agricultural income, due to the adoption of agroforestry and other sustainable practices; improved tangible forest products, due to forest restoration and reforestation; income generation resulting from the creation of viable formal ASM enterprises; and improved revenues for small-scale miners due to investment in more efficient and less intrusive extraction methods.

(b) National benefits, such as increased value added and marketability of selected commodities (including cocoa and cashew); improved ecotourism; improved water quality; reduced sedimentation due to forest restoration, suppression of forest fires, and rehabilitation of mined-out sites; and enhanced institutional capacity to replicate these practices beyond the end of the project. In the mining sector, formalization efforts will lead to higher tax receipts from registered businesses and, expectedly, a better retention of value addition from gold and gems beneficiation as production is traded and transformed in-country through the PMMC instead of being smuggled out of the country at discounted prices.

(c) Global benefits, including carbon sequestration from reforested areas, reduced emissions from deforestation and forest degradation, reduction in mercury pollution, and biodiversity conservation in the project areas.

D. Results Chain

67. **Reliance on low-value commodity production and unsustainable land-use practices makes people particularly vulnerable to climate change, and many communities of the project target areas are locked into a cycle of poverty and resource degradation.** The project's approach to addressing these gaps is presented in Figure 2. Under the current situation, land degradation and habitat fragmentation continue

in the NSZ and cocoa forest landscapes, mainly due to suboptimal and short-term land-use changes and unsustainable management practices in mining, forest, and agriculture. Insufficient information about the geology, soil, and hydrology hinders data-driven decision-making. Unless the productive potential of mineral resources and agricultural lands is reconciled with the value and benefits from PAs and forests, these resources will continue to be degraded.

68. **The project will promote the adoption of sustainable landscape management practices and sustainable ASM.** The project will develop spatial planning tools which will draw on newly acquired geological and hydrological data to help address barriers to collaborative multi-sectoral land-use planning and resource management. The tools and models will match land use with land characteristics and techniques for land restoration and water management. This approach will identify incentives for the adoption of sustainable agriculture practices and forest resources within and outside PAs. Support for formalization and capacity building of ASM operators is expected to incentivize operators to abandon short-term profit maximization and adopt longer-term and more sustainable mining practices which are aligned with forest preservation. Access to finance will be facilitated through stronger security of tenure, and modern equipment will be made available to ASM operators that meet compliance thresholds. The substantial number of existing ASM license holders will play an important part as role models/first movers of adopting sustainable mining practices. The project will address identified gaps to the scale-up of already tested SLWM practices. The project will improve crop yields, reduce erosion, and enhance the provision of water. This will contribute to enhanced agricultural development and food production through better land use, forest restoration, and strengthening of supply chains within the food systems. This will require strong monitoring systems for livelihoods, E&S management, implementation of land-use plans, and resources monitoring and protection.

69. **Critical assumptions include the following:**

(a) Communities are willing to engage in SLWM and sustainable ASM activities.

(b) Cash crop farmers are willing to invest in novel/improved crop production systems.

(c) Training and technology transfer, together with awareness raising, act as sufficient incentives to encourage the formalization of ASM activities and environmentally responsible practices.

(d) Formalization of ASM combined with building compliance monitoring capacity of key government agencies will translate into better compliance.

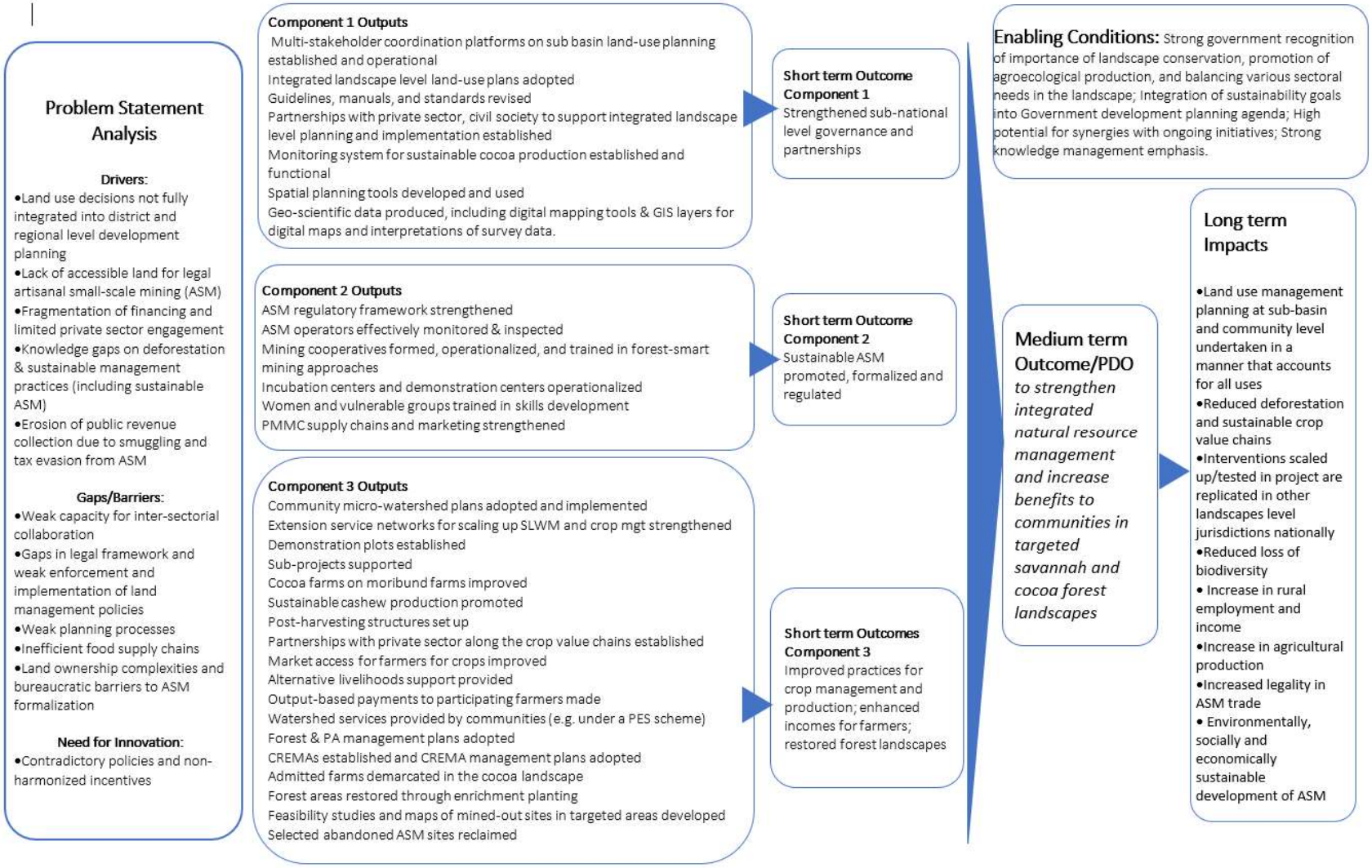
(e) Farmers and miners have sufficient interest and capacity to engage in value addition activities.

(f) Establishment of multi-stakeholder partnerships with private sector partners will improve market access for cash crop farmers and small-scale miners.

(g) Forest management planning that involves all key stakeholders will improve forest management.

(h) There is sufficient trust established between miners and authorities, so authorities can be trusted to provide incentives and miners can be trusted to follow the ground rules.

Figure 2. Theory of Change



E. Rationale for World Bank Involvement and Role of Partners

70. **The World Bank has a long history of supporting Ghana's natural resources management in general, and the forestry sector in particular, and can therefore add value in three main ways.** First, the World Bank would convene global experience, financing, and sectors to support the client in leveraging action to transform Ghana's rural production landscapes. Second, the World Bank would provide operational supervision and technical assistance to the client to implement the operation. Parallel ASM support in neighboring countries will also offer opportunities of regional collaboration and peer learning. Enhanced implementation support would focus on fiduciary aspects including E&S risks, results monitoring, capacity development of the client, strategic communications, knowledge development, and impact evaluation. Third, the project would benefit from the World Bank-led FOLUR platform which aims to provide technical, advisory, and knowledge services to participating countries, including Ghana (see annex 4) to support actions for a transformational shift in the targeted commodity value chains and land-use systems.

71. **The World Bank can provide expert technical input based on the lessons learned from several years of operations in the agricultural, forest, and mining sectors in Africa,** such as the Tanzania Sustainable Management of Mineral Resources Project (P151124). In Ghana, the Natural Resources and Environmental Governance Technical Assistance NREG TA Project (P129769) has laid the cornerstones for the formalization of the industry. Moreover, having designed and led the implementation of previous projects—for example, SLWMP (P098538), FIP (P148183), and the Ghana Emissions Reduction Program (P160339)—the World Bank is uniquely positioned to build on the experience gained to scale up and implement similar landscape restoration activities in Ghana. The project will also build complementarities and explore synergies with other projects, such as the Africa Environmental Health and Pollution Management Program (P167788) and Additional Financing for Ghana Forest Investment Program (P163745), on joint mining and environmental management aspects such as mine rehabilitation and mercury abatement.

72. **GEF co-financing**, blended with IDA, would help secure multiple global environmental benefits from better-managed cocoa forest landscapes including biodiversity conservation and better functioning ecosystems due to reduced forest degradation, forest loss, and restoration.

73. **The PROGREEN Multi-donor Trust Fund** co-financing will strengthen and intensify participatory resource management in the Northern Savannah landscapes tree and food crop production to maintain and improve ecosystem services by investing in resilient production and conservation landscapes. The GLRSSMP would be one of the first major PROGREEN investments.

74. **The EGPS Multi-donor Trust Fund** contribution will support the expansion of EITI implementation in line with the 2019 EITI standard, including the design and implementation of automated disclosures, E&S reporting requirements, and capacity building to strengthen formalization and revenue compliance in the ASM sub-sector.

F. Lessons Learned and Reflected in the Project Design

75. **The proposed project has benefited substantially from recent World Bank analytic work in Ghana**, namely the Country Environmental Analysis (2019). The project also integrates lessons learned

from the World Bank's Extractive Industries in Forest Landscapes Program (P172245), specifically through a Program on Forests (PROFOR)-funded technical assistance document entitled 'Forest-Smart Mining: Identifying Good and Bad Practices for Artisanal and Small-Scale Mining in Forest Landscapes'.

76. **The project builds on decades of World Bank engagement in Ghana's natural resources management sector**, of most relevance the SLWMP (P098538), FIP (P148183), NREG TA Project (P129769), Dedicated Grant Mechanism for Local Communities (P145316), and the Northern Savannah Biodiversity Conservation Project (P067685). The project is also drawing from joint mining and environmental institutional strengthening technical assistance in other gold-producing countries such as Burkina Faso and Tanzania. Implementation of SLWM will draw on lessons generated by the Ghana Environmental Management Project (2004–2016), funded by Canada. The project design was informed by important lessons on integrating smallholder farmers in tree crops supply chains, such as for cashew, generated through an ongoing German development agency GIZ[48] project and market links promoted by the Africa Cashew Alliance.

77. The following lessons or approaches have been demonstrated in the implementation of this portfolio of projects and inform the project design:

(a) **Government ownership and mainstreamed implementation is important.** The mainstreamed implementation model, used under the SLWMP and FIP, will be utilized under the proposed project. Use of existing institutional structures for project implementation is particularly important for creation of stronger ownership, building of institutional capacity, shared practical experience, and social capital for addressing cross-sectoral challenges. The mainstreamed arrangements are favorable with regard to cost-effectiveness and sustainability, compared to the temporary project units.

(b) **Community-level activities are essential to success but require significant start-up time and planning.** The SLWMP and FIP have demonstrated success in engaging communities and livelihood activities but only after extensive engagement. Sufficient time will be needed for good preparation and establishing of sound implementation plans at the district level. Community-level activities, whether related to landscape restoration, tree crops support, or ASM, should be well integrated and anchored within the local development planning process.

(c) **Private sector engagement in the cocoa forest landscapes will be essential for scaled adoption of sustainable cocoa production with reduced deforestation footprint.** Early lessons from the FIP and Ghana's Emission Reduction Program provide lessons on the kind of incentives and agroforestry models that help the transition to sustainable cocoa production.

(d) **Ambitions and expectations need to conform to the project budget and time frame.** The NREG TA project was ambitious with the time and resources to deliver good analytical products and action plans. Action plans also need to be connected to financing sources to ensure implementation. These lessons also relate to the need for a Results Framework that captures the essential indicators to gauge success.

[48] GIZ stands for *Deutsche Gesellschaft für Internationale Zusammenarbeit*.

(e) **The multi-sectoral approach—as adopted in the FIP, SLWMP, and NREG TA project—is an effective means of managing natural resources.** The well-being of the environment and natural resources is fundamental to the long-term sustainability of many sectors. Hence, bringing practitioners from various sectors together, creating and enhancing synergies, promoting collective processes, and encouraging adaptation to joint decision-making are bases for a good governance mechanism.

(f) **It is important to support investments that build financial security at the community level.** This can be achieved through financing of income-generating livelihoods activities (such as value addition, alternative livelihoods, and so on) and support for creation of financial pools controlled by communities, in the form of community revolving funds or VSLAs. Implementation of VSLA support under current SLWMP has demonstrated that these result in increased access to credit facilities by the community members, increased investment of women in agriculture, improved diversification of livelihoods activities in the communities, increased social cohesion among the beneficiaries, and improved position of women in their communities.

78. **Successful investments in comparable operations on sustainable landscape management are evidence-based and well-documented in several countries.** In Ethiopia, the Sustainable Land Management Project (P133133) was able to strengthen water and food security in participating districts compared to untreated areas; degraded lands were brought back into production for local farmers; and many community members who were ready to migrate remained in their birthplace and were able to afford to send their children to school and improve nutrition by producing vegetables and fruits using small-scale irrigation and by diversifying through alternative livelihoods. In Rwanda, the Land Husbandry, Water Harvesting and Hillside Irrigation Project (P114931) has demonstrated the value of combining support for SLM with climate-smart agriculture and the development of market links. In India, the Karnataka Watershed Project (P067216) won awards in the development of an integrated database (Land Resource Inventory). As a result of the demonstrated value of this tool to inform evidence-based project investments, this is now being scaled up to cover all districts. In Nigeria, the Erosion and Watershed Management Project(P124905) has demonstrated the importance of addressing gully erosion as part of a larger catchment management plan, including investments in soil and water conservation both at gully sites and upstream to reduce further erosion, and pioneering the use of vegetative interventions (bioengineering) as part of the solution. In Malawi, the Shire River Basin Management Project (P117617) piloted innovative approaches for integrated watershed management and has demonstrated the value of starting planning at a landscape level to identify strategic areas for investments and then planning at smaller scales in more detail for concrete action plans that villagers can implement.

79. **The Mineral Development Support Project in Burkina Faso (P124648) has been successful in tracking and marketing gold and other precious substances extracted by artisanal and semi-industrial mines.** The tracking has been successful in large part owing to collaboration with other agencies (for example, customs and border agencies) as well as local ASM stakeholders. At the national level, these efforts were also supported by the inclusion of designated ASM areas in the national mineral cadaster system with a view to blocking potential areas from large-scale mine titles issuance. In Tanzania, the Sustainable Management of Minerals Resources Project (P151124) supported the development of a viable ASM sector by strengthening backward and forward links for local value addition and employment creation. The approach in Tanzania relied on support to formalization and access to geological information to concentrate ASM activities in designated areas. Access to training for value addition skills

(demonstration centers) and support to organize as enterprises operating according to best socio-environmental standards (centers of excellence) were provided. Such actions can limit wanton destruction of forests and contamination of other natural resources such as pristine water resources. Efforts were made to simplify procedures for acquiring mineral licenses; decentralizing licensing, inspections, and extension services functions to zonal mines offices; and providing assistance to artisanal miners as incentives to formalize their operations.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

80. Implementation is aligned with existing government agencies and their mandates. The project has two implementing agencies (IAs): EPA, responsible for landscape restoration activities, and MLNR, responsible for mining formalization activities. Each IA will have a dedicated PCU.

81. The national-level project structure comprises the joint Project Steering Committee (PSC), the IAs (EPA and MLNR) with their respective PCUs on land restoration and mining, and beneficiary agencies.

82. The project will be guided by a joint PSC co-chaired by the MLNR and MESTI and comprising all agencies relevant to both sectors to improve coordination. The PSC will operate as the primary policy decision-making body for the project, with overall oversight responsibility for project administration and joint project activities. A technical-level Project Management Platform (PMP) will provide a technical level forum to deliberate on issues concerning project implementation; it will include project focal persons from the IAs and beneficiary agencies and other technical institutions relevant for project implementation. The National Sustainable Land Management Committee (NSLMC) (a standing committee of the GoG) will serve as the technical advisory function for the project landscape restoration activities.

83. The PCU-mining will fall under the leadership of the MLNR and will be responsible for project coordination, fiduciary management, and supervision of implementation, as appropriate. The PCU-mining will consist of a project coordinator, who will be responsible for leading all mining activities, and other relevant government and contracted staff. The PCU-mining will coordinate closely with all beneficiary agencies of mining-specific project components and coordinate directly and regularly with the PCU-Landscape Restoration.

84. The PCU-Landscape Restoration will be housed within the headquarters of EPA with a full-time coordinator and other relevant government and contracted staff and will, among others, manage and coordinate operations of the EPA and all beneficiary agencies on the landscape restoration part of the project, preparation of work plans, and reporting. The PCU-Landscape Restoration will coordinate closely with all beneficiary agencies of the Landscape Restoration project components and coordinate directly and regularly with the PCU-mining.

85. IAs (EPA and MLNR) and beneficiary agencies will assume direct responsibility for implementing the various components and activities of the project according to the work plans. IAs and beneficiary agencies will coordinate with the respective PCUs to prepare an implementation work plan and budget, provide input into the Procurement Plan, draft terms of reference, and oversee the procurement process.

All agencies are also responsible for executing their respective work programs, tracking project expenditures, and monitoring project results. The key agencies with implementation responsibilities under the project will include (a) on landscape restoration—EPA as lead IA and MoFA, COCOBOD, Wildlife Division (WD) of the FC, and Forest Services Division (FSD) of the FC as beneficiary agencies and (b) on mining — MLNR as lead IA and MC, GGSA, Lands Commission, Ghana EITI, and PMMC as beneficiary agencies.

86. The project will also engage with technical service providers as required and appropriate, in accordance with the work plans, in support of training, extension, and value chains activities.

87. At the subnational level:

- Within the two project target landscapes, the Local Steering Committees (LSCs) will be the project oversight body responsible for strategic policy decisions. There will be two LSCs to ensure alignment and ownership within regional jurisdictions, one for the NSZ project areas and one for the cocoa forest landscape regions.
- At the technical level in each landscape, the EPA will provide coordination and technical support through two Technical Coordination Offices (TCOs), based at the regional EPA offices in Bolgatanga (in the Upper East Region, covering the NSZ) and Kumasi (Ashanti Region, covering the cocoa forest landscape). The TCOs will (a) help coordinate micro-watershed planning and implementation under Subcomponent 3.1. and other cross-sectoral field activities; (b) develop a memorandum of understanding with each project district on SLWM activities and complementary investments; (c) implement the SLWM performance verification mechanism under Subcomponent 3.4; and (d) implement environmental monitoring activities for the project.
- The District Planning and Management Committees (DPMCs) will be responsible for coordinating project implementation at the district level. The DPMC is chaired by the district chief executive assisted by the district coordinating director who is the technical and administrative head of the District Assembly. Membership of the DPMC includes representatives of IAs and beneficiary agencies at the decentralized level on both sides of the project (Landscape Restoration and Mining). The DPMCs shall be responsible for project implementation, data generation, processing, archiving, and transmission to the regional and national offices, preparation of work plans and budgets at the district level (where necessary), and monitoring and technical backstopping on project interventions. They will support project activities at the operational/community level and in ASM-designated areas. The DPMCs will lead participatory processes related to the preparation of community watershed management plans at the micro-watershed level.
- Specifically, for ASM, the District Small-scale Mining Committees (DSMCs), which are statutory bodies for ASM under the Minerals and Mining Act, shall be responsible for project oversight and policy decisions on SSM operations within the mining districts.
- Actual implementation of activities will be led by specific implementation agencies in accordance with their regular mandates.

88. Annex 1 includes more information on implementation arrangements. The project implementation manual (PIM) includes details on implementation arrangements by activity.

B. Results Monitoring and Evaluation Arrangements

89. The M&E function of the project will facilitate the accountability toward achievement of the objective, activities, and outputs based on the Theory of Change and Results Framework. The M&E Plan will allow for ongoing learning and feedback through the planning and implementation stages (annex 1). The project Results Framework will guide day-to-day M&E, as well as evaluation analysis and reporting at midterm and completion. The EPA and the MLNR will have the overall responsibility for coordinating M&E for landscape restoration and mining activities, respectively, and ensuring that data and information are produced on time and to the necessary quality. Project performance and results will be reported on a semiannual basis to the World Bank consistent with the Financing Agreements. IAs and beneficiary agencies will produce regular activity reports to inform project-level M&E. The M&E Plan detailed in annex 1 is fully budgeted at US$2.76 million (including US$0.855 from GEF, see GEF budget matrix).

90. The Results Framework includes appropriate gender and citizen engagement indicators; it also includes two climate change indicators consistent with IDA19 commitments on climate change. The project will report on the GEF and PROGREEN core indicators (see annexes 1 and 4 for details).

91. The project will use an online-based geonode open-source spatial database to back up the M&E system. The system will allow the project implementers at all levels to upload vetted field data for additional analysis and visualization. All the project implementing partners would have seamless access to the online database. With this capability, the implementing partners can also supply the same project results to the Ghana Statistical Service and the National Development Planning Commission as a contribution to the sector annual progress report. Project M&E will also draw on the data in an existing forest monitoring system, agriculture statistics, and the national system for climate reporting and reporting under the United Nations Convention to Combat Desertification. An impact evaluation of the landscape restoration activities has been included in the project design.

C. Sustainability

92. Sustainability of specific investments made by the project is expected to be high.

93. **Ecological.** In all cases, the activities and investments introduced will be aimed at increasing environmental sustainability of rural activities. Natural resource management systems that may be developed by the project (for example, in CREMAs) tend to involve a trade-off between sustainability and short-term return, and hence, sustainability cannot be guaranteed unless appropriate monitoring of activities is pursued in the long run. Nevertheless, the impact of the project should still be to make these systems more sustainable than at present. By improving the environmental management capacity around mining areas, the project support will ensure that the potential negative impacts of activities will be identified and mitigated and that sustainable exploitation pathways will be established, with appropriate implementation and monitoring capacities enhanced. Improved and holistic basin-level planning will help address issues of sustainable water planning and use as well.

94. **Social and financial.** The SLWM technologies and crop technologies to be promoted are selected to have significant benefits to the individuals and self-selected farmers voluntarily applying them. Hence, long-term sustainability is expected to be high once initial barriers to adoption are overcome with the help of participatory planning, incentive systems designed around needs and social systems, and monitoring of participant satisfaction. Sustainability of community wildlife and habitat management activities within CREMAs is more challenging because the time required to yield tangible benefits for the community is longer. Project support to ecotourism investments that can generate revenue continuously, even after the project closure, will contribute to enhancing financial sustainability of forested landscapes—although the international tourism sector is currently in crisis and domestic tourism will need to be better targeted to bring about these revenues. A better capture of the ASM operations in the formal economy will increase public revenue collection to finance the additional administrative costs of sector management, for example, if a 2 percent royalty was applied on just 10 percent of the illegal gold exports which are estimated at around US$1.2 billion, the incremental revenue mobilization would amount to US$2.4 million per year—largely sufficient to sustain administrative costs. These efforts would also lead to an improvement of communities' livelihoods and an increase in the value of natural resources.

95. **Institutional.** Implementation is aligned with the existing GoG structures and systems. Establishment of robust multi-stakeholder platforms at the national, district, and community levels is a key to the project's sustainability. This approach helps engage all stakeholders through strengthening of the institutional frameworks for sustainability and resilience. At the national level, the project will engage the multi-agency NSLMC, which is responsible for providing overall guidance for the implementation of the GSIF (for SLM).[49] The NSLMC also ensures synergies with other programs, initiatives, institutions, and partners on the ground to enhance participation in the consultative process. At the district level, the project support will help establish district watershed management teams (DWMTs) in the new target districts, in addition to providing further support and capacity to the existing 12 DWMTs established with support from the SLWMP. At the community level, CWMTs will be established and strengthened to empower communities to make informed choices on sustainable land and natural resources. In the CREMA communities, similar structures will be supported for community-level decision-making on common resource pools (CRMCs), in addition to the CREMA Executive Committees (CEC) (one for each CREMA). Establishment of community-level governance structures will be tracked through a dedicated indicator under the project Results Framework. The mining component attempts to emulate the described SLWM consultation practices to instill more inclusive development models than the traditional top-down pilot projects of pre-selected technologies.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis

96. **Technical design of the project.** The project design builds on a number of successful engagements in support of the GoG objectives of sustainable management of its natural resources, including the

[49] The NSLMC was established in 2007 to promote the SLWM agenda at the policy and strategic levels. The committee is chaired by the EPA and includes representation from MoFA, FC, Water Resources Commission, Energy Commission, National Development Planning Commission, Ministry of Finance and Economic Planning, and Friends of the Nation, Ghana. It prepared the GSIF (for SLM) through support from the TerrAfrica partnership and has actively engaged with other regional partners and institutions contributing to the SLM agenda.

ongoing Ghana SLWMP (P098538), Ghana FIP (P148183), Ghana Emissions Reductions Program (P160339), and synergies with a series of agricultural and land administration and regional environmental health and pollution projects.[50] There has also been intensive collaboration with the GoG in the preparation stage to ensure appropriate design and inclusiveness across all the relevant ministries for strong ownership. A number of preparatory studies were undertaken to inform the soundness of design and also monitoring during the project preparation. In addition, the project structure and components have been designed to ensure complementarities among all the components in an integrated landscape and ecosystem approach to ensure implementation feasibility of each subcomponent by creating cumulative benefit accrual to the beneficiaries, environment, and the country from the different activities financed.

97. **Justification for public sector provision**.[51] Land degradation—for example, forest, agricultural and other rural land—is a major problem in Ghana, causing both on-site effects (for example, reduced productivity) and off-site problems (for example sediment flows that affect water availability downstream, release of chemicals, and carbon emissions). Farmers and small-scale miners have incentives to address on-site effects; however, both groups are confronted with insecure tenure and lack of financial means which often act as a disincentive for them to do so. Moreover, the off-site effects are externalities where perpetrators have little incentive to address the impacts without outside interventions. Therefore, using public sector funds to finance the project is crucial to addressing these problems.

98. **Economic analysis at the national level.** Cost-benefit Analyses (CBAs) were conducted for the landscape restoration and mining activities, respectively, using a discount rate of 6 percent[52] and a time horizon of 30 years. The analyses considered all project costs, including investments, operation and maintenance costs, and other opportunity costs (for example, forgone agricultural income in restored forest areas). The landscape restoration analysis estimated the following benefits: (a) additional net returns due to adoption of SLWM practices, enhanced cocoa production on moribund farms, and community-level investments; (b) improved value addition of cash crop commodities through activities that reduce post-harvest losses and enhance incomes from alternative livelihoods; and (c) benefits from reduced deforestation, reduced degradation, and reforestation in and around FRs and wildlife PAs. The results indicate that landscape restoration activities are economically attractive, with a net present value (NPV) of US$139.2 million. The SSM analysis included improved income levels for the ASM operators which participate in training and awareness-raising about enhanced mining techniques. It is assumed that these beneficiaries will increase their gold recovery rates by up to 5 percent. Second, formalization efforts of ASM operators are expected to internalize gold sales and value creation which would otherwise accrue to illegal smugglers and non-Ghanaian nationals. Notwithstanding, data constraints prevented the analysis from capturing several expected project benefits, for example, benefits from reduced mercury contamination and reduced erosion and sedimentation due to the adoption of SLWM practices. The ASM component yields an NPV of US$47.3 million. Overall, the economic analysis of the whole project shows a total NPV of about US$187 million and an internal rate of return (IRR) of 20 percent. Annex 5 provides a detailed description of the analysis.

[50] Africa Environmental Health and Pollution Management Program (P167788), Ghana Land Administration Project (ongoing), Ghana Land Administration Projects 1 and 2 (closed), and Ghana Commercial Agriculture Project.
[51] See section E. Rationale for World Bank involvement for the World Bank value added and section C. Project beneficiaries for the expected project impacts.
[52] World Bank. 2016. *Discounting Costs and Benefits in Economic Analysis of World Bank Projects*. Washington DC: World Bank.

99. **Based on available data analysis using the Ex-Ante Carbon-balance Tool (EX-ACT), the project will generate net greenhouse gas (GHG) emission reductions of around 185.25 million tons (CO_2 equivalent) over a 30-year period[53] or 6.17 million tons per year.** Project activities will mainly provide emission reductions resulting from the avoidance of deforestation and forest degradation through improved management of PAs, FRs, and biological corridors in CREMAs,[54] including natural forests on community-managed land; restoration of degraded forests through regeneration and afforestation; riparian vegetation restoration; replacement of monocrop practices with intercropping and agroforestry; wildfire prevention and management; restoration of mined-out areas through phytoremediation; and improvement in forest condition in areas under SSM due to improved mining practices as a result of project support and training.[55]

100. **Economic analysis at the global level.** In addition to the national benefits mentioned above, the project generates global social benefits from the reduced GHG emissions. The economic value of emissions reductions is calculated based on the World Bank (2017)[56] guidance on shadow price of carbon: US$41 per tCO_2 (low scenario) and US$82/$tCO_2$ (high scenario) for 2021, with an annual increase of 2.25 percent. Inclusion of carbon benefits in a global CBA generates an NPV ranging from US$4.6 billion (low) to US$9 billion (high) (table 2, base analysis).

Table 2. National and Global CBA of the Project (NPV, US$, millions)

	Base Analysis (r = 6%)	Sensitivity Analysis to Discount Rate		
		r=2%	r = 8%	r = 10%
National CBA (without carbon)	187	419	125	83
Global CBA (with carbon, low scenario)	4,635	8,117	3,666	2,978
Global CBA (with carbon, high scenario)	9,084	15,815	7,208	5,873

101. Ghana does not yet have a carbon price. However, there is potential for future trade of carbon due to emission reductions in the project area. This could be done through the Ghana Shea Landscape Emissions Reduction Program (under preparation), which covers part of this project's target area (Northern Savannah). Any emission reductions from the GLRSSMP eligible for compensation under this agreement would represent national benefits to Ghana. However, it is not possible at this stage to value the financial worth of emissions reductions from the GLRSSMP to Ghana. This will depend on (a) the eligibility of the GLRSSMP areas under any future contract between carbon buyers and the GoG; (b) the quantity of emission reductions expected from the contract area, estimated according to the agreed methodology (which may differ from that used for the present GHG assessment); and (c) the agreed price of carbon under the purchase agreement, less the costs related to monitoring, reporting, and verification.

[53] This includes a six-year investment period and a 24-year capitalization period.
[54] For the GHG estimates, it is assumed that, with project, these forested areas will remain in the same condition; without the project, they will experience deforestation and degradation. For the baseline assumption, the team estimates, based on existing literature, that approximately 78 percent of the FRs and PAs are forested and about 40 percent of the CREMAs are forested.
[55] These improvements are expected on approximately 25,000 ha of forested land or on average 5 ha per 5,000 small-scale miners trained.
[56] World Bank. 2017. *Shadow Price of Carbon in the Economic Analysis*. Guidance note.

B. Fiduciary

(i) Financial Management

102. A financial management (FM) assessment was conducted at the two lead IAs, namely (a) the MLNR and (b) the EPA. The project will emphasize the use of country systems in line with the World Bank's default position of using those aspects of the county system deemed reliable. The project's FM systems for all the IAs will, therefore, be mainstreamed as part of the existing GoG arrangements according to the Public Financial Management (PFM) Act, 2016 (Act 921).

103. In terms of FM systems, the key FM arrangements can be summarized as follows: at the MLNR, the financial controller of the ministry who is a staff of the Controller and Accountant General's Department (CAGD) will have overall fiduciary responsibility for all FM aspects of the project, but the routine daily transactional processing and reporting will be assigned to a fully dedicated project FM consultant (FMC) working with a team of two junior officers. Similarly, for the EPA, the director of accounts, also a staff of the CAGD, will be responsible for all aspects of FM. Within the various IAs, the respective directors of accounts or heads of finance will have overall fiduciary responsibility for all FM aspects of the project and are expected to work in collaboration with their respective project coordinators.

104. The financial controller of the MLNR and the director of finance of the EPA working with their respective accounts teams are to ensure that throughout implementation, there are adequate FM systems in place within their agencies which can report adequately on the use of project funds. In addition, they will be tasked with maintaining oversight responsibilities with regard to ensuring compliance with financial covenants such as submitting acceptable interim unaudited financial reports (IUFRs), preparing annual financial statements, maintaining internal controls over project expenditure, and engaging external auditors and ensuring compliance to submission of acceptable audit reports. The project accountants will also be responsible for maintaining and operating the project's Designated Account (DA) and will support the processing of payments to contractors and service providers and verifying and authorizing payments for all contracts and activities under this project.

105. In summary, an assessment of the project's FM arrangements at both the MLNR and the EPA concludes that they satisfy the World Bank's minimum requirements. The assessment of the project's FM arrangements indicates that since both IAs are fully functioning government agencies and administrative units, they satisfy the World Bank's minimum requirements according to the World Bank Policy for Investment Project Financing (IPF).

(ii) Procurement

106. The MLNR and the EPA are the main IAs, and they were assessed in the middle of October 2020. They will be responsible for the project's coordination, procurement, contract management, and FM.

107. Procurement under the project will be carried out in accordance with the "World Bank Procurement Regulations for IPF Borrowers for Goods, Works, Non-Consulting and Consulting Services", dated November 2020; the Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants, dated October 15, 2006 and revised in January 2011

and as of July 1, 2016; and other provisions stipulated in the Financing Agreement and Grant Agreements. The World Bank's Standard Procurement Documents shall be used, where applicable. The EPA and the MLNR intend to implement the project using mainstream staff of the agency. Based on the risk assessment rating by the World Bank, a procurement consultant may be hired, if it becomes necessary, to support the agency for initial implementation, especially to provide support in the use of the Procurement Framework.

108. The PCUs will work in collaboration with the other beneficiary agencies—such as MC, Water Resources Commission, FC, COCOBOD, MoFA, Lands Commission, and respective District Assemblies, among others.

C. Legal Operational Policies

	Triggered?
Projects on International Waterways OP 7.50	No
Projects in Disputed Areas OP 7.60	No

D. Environmental and Social

109. **E&S risk is assessed as Substantial.** This classification is based on the sensitive critical biodiversity location of the project, potential E&S risks and impact, and the capacity of the IAs to manage the risks. The appraisal Stage Environmental and Social Review Summary (A-ESRS) was publicly disclosed on April 28, 2021. The A-ESRS identified the following Environment and Social Standards (ESSs) as relevant for this Project: ESS1: Assessment and Management of Environmental and Social Risks and Impacts; ESS2: Labor and Working Conditions; ESS3: Resource Efficiency and Pollution Prevention and Management; ESS4: Community Health and Safety; ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement; ESS6: Biodiversity Conservation and Sustainable Management of Living Natural Resources; ESS8: Cultural Heritage; and ESS10: Stakeholder Engagement and Information Disclosure.

110. **Environmental risks and impacts.** Overall, the project is expected to have positive environmental impacts by restoring degraded forest landscapes, reclaiming degraded mined-out sites, improving ecosystem services, improving livelihood of rural communities, promoting social inclusion, and supporting regulatory reform and formalization of the ASM sector. The project has an overall objective of improving current practices related to subsistence agriculture, management of riparian/watershed areas, forested areas within and between gazetted areas, and ASM in target areas, through adequate trainings, extension, and investments in restoration of natural resources. In all its activities, the project will ensure protection of sacred lands and groves within the project areas. However, some potential environmental risks can be envisaged and will be associated with activities such as construction and rehabilitation of waterholes and water dugouts, alternative income generation initiatives, agroforestry practices, rangeland establishment and management, cocoa intensification practices, woodlot establishment, enrichment planting in FR and off-reserve, and reclamation of abandoned ASM sites. Potential environmental impacts may include air, noise, and water pollution; erosion; soil contamination; forest and land degradation; and the poisoning of non-target organisms associated with the use of pesticides. The impacts associated with these risks will be localized and are not likely to be significant, and there is low probability of serious adverse effects to human health and/or the environment. The impacts can easily be prevented and/or mitigated in a

predictable manner. In addition, the project will utilize established capacities, protocols, manuals, and monitoring mechanisms developed under the previous/ongoing World Bank-supported interventions.

111. **Social risks and impacts.** Overall, the project is expected to have positive social impacts on people as the interventions will improve community management of natural resources, diversify income streams of farmers, improve livelihoods and food security, enhance women's access to land and markets, increase access to finance for investments in land, and promote social inclusion. Further, the project will also promote reforms and indirectly address related social challenges particularly in the ASM sector given the nature and conditions of work for women, children, and migrants in artisanal SSM value chain in Ghana. There are communities that are legally residing within the PAs, within negotiated boundaries, which are the 'admitted communities', according to the Ghanaian law. Given their legal permissible admittance for residing, they will not be resettled. Nevertheless, there may be restrictions on access of the fringe communities to the PAs—and the project will invest significantly into supporting livelihoods activities for these communities. These issues are clearly identified in the Resettlement Policy Framework and Process Framework (RPF & PF), prepared and publicly disclosed on May 24, 2021 for the project. Other social risks may be associated with confrontation between forest and wildlife guards and FRs and national parks (NPs) fringe communities when forest land boundary demarcation, existing regulations and plans that restrict access and land-use rights in PAs are enforced. Conflicts involving farming communities on one hand and Fulani pastoralists on the other have also been reported in the project areas due to limited grazing areas during the dry season. Again, human wildlife conflicts occasionally occur due to scarcity of water during the dry season.

112. Project activities proposed to improve the ASM sector in Ghana including reclamation of mined-out sites and delineation of areas with potential mineral deposits may inadvertently lead to displacement of land users, encroachers and illegal prospectors, and miners. While use of local labor is anticipated in some project activities (for example, rehabilitation of degraded FRs, reclamation of mined-out lands, and livelihood programs), risk of use of child labor in cocoa plantations in forest landscapes and reclamation sites cannot be ignored. In line with the ESF, the Borrower has assessed the risk of child labor or forced labor and developed measures to avoid them, including screening and monitoring mechanisms. In line with Environmental and Social Standard 2 (ESS2): Labor and Working Conditions and the Ghana Labor Act 2003 (Act 651), the use of forced labor or child labor/children under the age of 18 is prohibited. The project will not financially or technically support any activities liable to encourage the use of any child labor (including employment of children that is economically exploitative, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development). Awareness raising sessions will be regularly conducted in the project communities to sensitize people on prohibition and negative impacts of child and forced labor as well as procedures for preventing abuse of child labor. Such sessions will be organized in a culturally appropriate manner and in local languages to encourage communities to take part in the dialogue. Project activities to improve the regulatory framework for ASM and enhance monitoring systems for sustainable cocoa production will include measures to address child labor.

113. Risks of spread of communicable diseases including spread of COVID-19 are anticipated given that the project interventions will be implemented in communities where potential for spread of infectious diseases is possible. Although the sexual exploitation and abuse/sexual harassment (SEA/SH) risk is rated as low for the project using the gender-based violence (GBV) risks assessment tool, the project presents opportunity to advance gender inclusion in the forest landscape management and landscape

management and SSM sector and this is well articulated in the project Gender Action Plan and well mainstreamed into project design, also building on the lessons from the ongoing Ghana SLWMP (P098538) and G-FIP (P163745) in particular.

114. **Stakeholder engagement and GRM**. The project has been shaped by the extensive stakeholder consultations in all targeted districts as undertaken by the GoG teams—these informed the project design and also the identification of relevant E&S risks. The Stakeholder Engagement Plan (SEP) disclosed on May 24, 2021 establishes an effective platform for productive interaction with potentially project-affected persons and communities and other interested parties. The SEP includes a GRM that provides avenues for project-affected persons and stakeholders to raise concerns and to seek resolution.

115. **The specific elements of the framework for citizen engagement built into project design include** (a) support to the engagement of local communities in the management of resources; (b) support to community engagement in determining local priorities through activities' planning; (c) support to a feedback mechanism/feedback loop from target beneficiaries; and (d) support to build the capacity of local structures in engagement with target beneficiaries to address concerns and issues raised as well as to reflect these in the revisions of the land-use and land management plans. Citizen engagement outcomes[57] will be assessed through two indicators 'People in targeted areas with increased benefits as a result of the project (number), including female and youth' and 'People participating in consultations/decision-making on natural resources management (number), including female, 'sustainable land management practices' and 'alternative livelihoods'. The PIM will include detailed project-specific protocols for stakeholder engagement in view of COVID-19 restrictions and GRM; these will be updated from time to time as the situation evolves throughout implementation.

116. **E&S assessments and instruments.** As specific sub-projects' locations are not known during preparation and to institute a general risk identification framework for assessing and managing the potential E&S risks, the project has prepared an Environment and Social Management Framework (ESMF) (disclosed on April 21, 2021), and a RPF&PF (disclosed on May 24, 2021) to guide the preparation of site-specific instruments when sub-project locations are identified as required by the ESS5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement. As part of the ESMF, the project has prepared an Integrated Pest Management Plan consistent with ESS3: Resource Efficiency and Pollution Prevention and Management (included in the ESMF), which assessed the nature and degree of specific risks of pesticide use that will be associated with agricultural, plant nurseries, and agroforestry activities. The labor influx-related risks in the context of this project would be managed through Labor Management Procedures included in the ESMF.

117. The ESMF, RPF&PF, and SEP have been consulted upon and approved and disclosed by the World Bank. Using the ESMF, sub-project activities will be screened to identify potential risks of and determine relevant risks assessment and mitigation plans; that is, Environmental and Social Impact Assessments , Environmental and Social Management Plans (ESMPs), and Resettlement Action Plan that may be required. Project activities in designated FRs, NPs, PAs, and biodiversity corridors will be screened to determine the need for a Biodiversity Management Plan (BMP) and, thereafter, prepare the BMP as part

[57] Manroth, Astrid, Zenaida Hernandez, Harika Masud, Jad Zakhour, Miguel Rebolledo, Syed A. Mahmood, Aaron Seyedian, Qays Hamad, and Tiago Peixoto. 2014. *Strategic Framework for Mainstreaming Citizen Engagement in World Bank Group Operations: Engaging with Citizens for Improved Results (English)*. Washington, DC: World Bank Group.

of site-specific ESMPs. The ESMF, RPF&PF, and SEP and requirements for the preparation of any other required E&S instrument have been included in the Environmental and Social Commitment Plan (ESCP) dated June 17, 2021, to monitor implementation.

118. The project is currently preparing a Strategic Environmental and Social Assessment (SESA) that will analyze the E&S policy implications of the ASM reforms being proposed under the project and inform interventions on revising ASM policies and regulations. SESA will be reviewed and approved by the World Bank and will be disclosed during project implementation and before the initiation of ASM Policy reform activities. The project will build the capacity of the MC to enforce country safety regulations relevant to the ASM sector.

119. **Project monitoring.** Given the COVID-19 pandemic and travel/mission restrictions, the project will enhance the use of information and communication technology (ICT) for remote planning, implementation, monitoring, and supervision of E&S related risks. The SLWMP is currently using a 360-degree camera for remote supervision, and the project will build on this experience.

120. **Stakeholder engagement.** The project has been shaped by the extensive stakeholder consultations in all target districts as undertaken by the GoG teams—these informed the project design and also the identification of relevant E&S risks. These included meetings with the district authorities, traditional leaders, and representatives of communities and civil society. Relevant engagement and consultations at all levels (communities, local authorities, local and national nongovernmental actors, private sector, central government agencies, and members of parliament) will continue for the remaining duration of project preparation.

121. **Citizen engagement will continue throughout project implementation**—consultations will be undertaken with communities and local authorities before specific activities are undertaken, and outcomes of these consultations will inform final design of activities; the project design emphasizes community-designed and community-led activities. Stakeholder engagement is an integral part of the participatory planning approaches in community watershed planning, participatory resource management, participatory preparation of forest management, and community management plans. The SEP, prepared for the project, has identified all relevant stakeholder groups and appropriate engagement approaches. In addition, the Community-Based Participatory Watershed Development Planning Manual (MESTI) provides detailed guidance on participatory development of community watershed management plans. A Brief Guide to the Establishment of CREMAs (prepared by the WD) serves as a user manual for participatory planning for the management of wildlife corridors.

122. **The project seeks to support sustainable management at the landscape level.** Achieving this objective will require proactive and continuous citizen engagement to secure buy-in to project activities and strengthen ownership of the process leading to the desired transformation. The project will support the engagement of people living in and around the project intervention areas. Using this approach, citizen engagement work will enhance project quality through the integration of various community interests and incorporate local knowledge in the project interventions in specific areas. This approach will help promote transparency and enhance citizens' voice and participation.

123. **The project explicitly seeks to support the engagement of people living in and deriving their livelihoods from forests that are targeted for interventions under the project, that is, target**

beneficiaries. Engagement of target beneficiaries aligns to and supports the project's approach to demand-side social accountability. Feedback mechanisms will be developed as the project implementation starts to ensure transparency, accountability, and learning as well as a continuous dialogue with target beneficiaries and other stakeholders. The project design envisages specific engagement forums with the target beneficiaries that would be formally incorporated into field project monitoring engagements of the PCUs and the field meetings of the PSC. Through focused discussions on the results of these engagements and feedback received, a feedback loop will be created. Particular attention will be given during implementation to improve the capacity of the local and national structures to close the feedback loop and report on action taken to address concerns and issues.

124. **The specific elements of the framework for citizen engagement built into project design include** (a) support to the engagement of local communities in the management of resources; (b) support to community engagement in determining local priorities through activities' planning; (c) support to a feedback mechanism/feedback loop from target beneficiaries; and (d) support to build the capacity of local structures in engagement with target beneficiaries to address concerns and issues raised as well as to reflect these in the revisions of the land-use and land management plans.

125. **Citizen engagement outcomes in the area of natural resource management as prescribed in the Strategic Framework for Mainstreaming Citizen Engagement in WBG Operations**[58] will be assessed through the indicator 'People in targeted areas with increased benefits as a result of the project (number), including female and including youth.'

126. **Stakeholder engagement and GRM.** The project SEP establishes an effective platform for productive interaction with potentially affected parties and persons with interest in the project. It also solicited feedback that has informed project design while simultaneously managing expectations of the beneficiaries and interested parties about project outcomes. The SEP also includes a GRM that provides avenues for project-affected persons and stakeholders to raise concerns, questions, and complaints about the project for redress.

127. **All stakeholder engagement activities will be conducted in strict compliance with the Government and World Bank protocols regarding COVID-19.** In line with the World Bank guidance note on 'Public Consultations and Stakeholder Engagement in World Bank-Supported Operations When There Are Constraints on Conducting Public Meetings,' issued on March 20, 2020, and national protocols on social distancing to deal with the pandemic, the project will adopt measures to minimize health risks while ensuring continuity of information flow. Where direct engagement with stakeholders or beneficiaries is necessary, the project will identify channels for direct communication with stakeholders through a context-specific combination of email messages, mail, online platforms, or dedicated WhatsApp groups. The PIM includes detailed project-specific protocols for stakeholder engagement in view of COVID-19 restrictions; these will be updated from time to time as the situation evolves.

128. **A project-specific gender-sensitive GRM will be established prior to the start of implementation and maintained throughout project life to respond to any potential complaints and conflicts that may**

[58] Manroth, Astrid, Zenaida Hernandez, Harika Masud, Jad Zakhour, Miguel Rebolledo, Syed A. Mahmood, Aaron Seyedian, Qays Hamad, and Tiago Peixoto. 2014. *Strategic Framework for Mainstreaming Citizen Engagement in World Bank Group Operations: Engaging with Citizens for Improved Results (English)*. Washington, DC: World Bank Group.

arise during project implementation. The project GRM will enable a broad range of stakeholders to channel concerns, questions, and complaints to the various implementation agencies. The project will improve the existing system established under the Ghana SLWMP (P098538). The GRM will have multiple uptake channels and locations, from the community level to PCU level. The project will maintain a complaints' register to document all complaints and how they were resolved. The GRM system will direct complaints to the appropriate IA with which the complainant is associated to ensure that appropriate feedback can be provided to the complainant if the grievance cannot be resolved immediately and requires further action. A summary of the issues raised (with personal identifiers removed to ensure confidentiality) will be discussed each month at the project management meetings; such summaries will be included into regular reports to the World Bank. Grievance resolution outcomes will be tracked in regular reporting to the World Bank on "number of grievances registered" and "percentage of grievances resolved within the specified timeframe."

V. GRIEVANCE REDRESS SERVICES

129. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit http://www.worldbank.org/en/projects-operations/products-and-services/grievance-redress-service.
For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

VI. KEY RISKS

130. **Project risks.** The overall project risk is Substantial. The following is a brief explanation of the key risks, proposed mitigation measures, and residual risk ratings[59] that have been determined through the application of 'Guiding Principles in Risk Assessment and the Application of the Systematic Operations Risk-Rating Tool (SORT) in World Bank Operations,' dated May 11, 2020.

131. **Political and Governance risk is assessed as Substantial.** The GoG's vision for reform and improved management of the concerned sectors is sound but challenging and involves multiple levels of government and society which need to work together to address key priorities. Moreover, efforts to control *galamsey* have become a politically contentious matter driven by those who were affected by the ASM ban. The project will need to deliver tangible results to communities to sustain support for the overall change process. There is therefore a risk of politicization of the initiative and possible reversal of policy.

[59] With the exception of E&S risk.

Additional political risks are posed by the potential shift in the GoG priorities given the COVID-19 pandemic situation and any potential Government changes during project implementation.

132. **Mitigation measures.** The issues of governance, vested interests, and distorted incentives would be addressed by using technical criteria and technically sound established institutional frameworks as well as building the capacity of institutions. Engagement will be maintained also with traditional authorities and mining groups and will aim to be led by community demand and interest to the extent possible.

133. **Macroeconomic risk is assessed as Moderate.** Macroeconomic shocks and challenges continue to weigh on economic growth. Inflation remains high and may affect the prices of inputs provided by the project. Furthermore, the ongoing costs related to handling of the COVID-19 pandemic situation will place additional fiscal burdens. As the project implementation is fully mainstreamed into government agencies and implementation is led by the government civil servants, any substantial fiscal pressures that may lead to a reduction of the government payroll would affect project implementation.

134. **Mitigation measures.** No mitigation measures for macroeconomic risks are proposed under the project as risks are external to the project and beyond its scope. The macroeconomic situation will, however, be monitored for possible effects on the project. The project's focus on community mobilization in areas with limited infrastructure and social services would directly contribute to a COVID-19 response strategy in rural areas.

135. **Sector Strategies and Policies risk is assessed as Substantial.** The GoG has high engagement and interest to address the problems of natural resource degradation in general, and informal ASM in particular. However, regulatory instruments will need to be updated and their implementation will need to be strengthened to ensure that the legal authorities and mechanisms are in place to address degradation, contamination, and illegality issues in SSM.

136. **Mitigation measures.** In support of the GoG agenda, the project aims to address the regulatory challenges associated with informal mining by supporting the review of regulations and implementation instruments regarding ASM formalization. The project will support policy assessment as well as coordination and implementation among key agencies—and consultative processes to ensure that policies are developed and improved with a sound basis of stakeholder inputs. The proposed design includes resources for consultation, communication, and dissemination of lessons and successful practices. These allocations aim to build the role of change agents in communities and to build constituency for practical and legal solutions to the problems at hand.

137. **Technical Design of Project or Program risk is Moderate.** While some components of the project have been successfully tested in Ghana and elsewhere, there are others that are more challenging, and bringing these together in a landscape approach through a multi-sectoral project is inherently complex as it includes multiple types of investments, IAs, and stakeholders. There is also a need to pay attention to site selection criteria, consultation with affected communities, and the potential replication of interventions.

138. **Mitigation measures.** Given that both the EPA and the MLNR already have experience in implementing World Bank and other donor projects, the current project will continue to build on this experience and support relevant IAs under each ministry with technical assistance as needed to further

build and strengthen their capacity. The project design ensures that implementation responsibilities are fully aligned with existing mandates of government agencies. In light of COVID-19, ICT solutions will need to be sought and connectivity at the local levels strengthened to support project implementation, building on the experience with remote supervision tools already in use in the Ghana portfolio.

139. **Institutional Capacity for Implementation and Sustainability risk is assessed as Substantial,** given the multiplicity of the task and the diverging experience and capacities at the ministries in charge of mining and environment as well as other IAs and Beneficiary Agencies. The proposed project is a multi-sectoral effort requiring a significant amount of coordination and collaboration. Project activities will require coordination across a range of national agencies with different mandates, as well as engagement with local governments at several levels. Implementation arrangements split between two ministries and multiple IAs within both ministries may create implementation imbalances.

140. **Mitigation measures.** The nature of the planned activities is relatively upstream, and this risk is mitigated by clearly delineating activities and associated budget lines according to the mandates of the different IAs involved. Project support will include building the coordination capacity of both lead IAs, the EPA and the MLNR, and implementation capacities of other agencies to ensure appropriate sustainability of project support. At the same time, the project will be guided by a joint PSC co-chaired by both responsible sectoral ministries, MESTI and the MLNR, and involving all relevant IAs to avoid duplication of effort by ensuring proper synergies between the agencies and proper allocation and efficient utilization of project funds. The project will invest in strengthening the Government's capacity for support and monitoring of ASM operations, promoting responsible entrepreneurship for ASM development, and supporting sustainable livelihood alternatives within *galamsey* communities. Project oversight arrangements will be reviewed, as relevant, to ensure that adjustments are made as needed.

141. **Fiduciary risk is assessed as Substantial.** The overall FM residual risk is rated Substantial. The reasons for the Substantial rating include, among others, (a) challenges in coordinating among multiple subnational implementing and beneficiary agencies—within the MLNR, the project will be implemented with the support of five other agencies including MC, GGSA, Lands Commission, Ghana EITI, and PMMC. Likewise at the EPA, implementation will involve MoFA, COCOBOD, WD, FC, and FSD; (b) weak internal audit and financial monitoring capacity at the subnational levels where most of the project activities will occur; and (c) possible administrative delays and bureaucratic challenges in reporting on the use of funds at the subnational levels and transfer of funds (on an imprest basis) to the different IAs that may not have similar fiduciary capabilities. The summary assessment of the procurement risk is Substantial for the project, and the prior review thresholds have been set to reflect this rating. Procurement post reviews and technical audits will be carried out annually by the World Bank procurement specialist, the Ghana Audit Service (GAS), and technical specialists or independent auditors. The main risks identified are the following: (a) the use of the Procurement Framework which is new to the project; (b) inadequate monitoring of contracts; (c) delays in processing procurement and payments; (d) political interference, and (e) fraud and corruption.

142. **Mitigation measures.** Fiduciary risk will be mitigated through appropriate oversight, improving capacity and supervision. To mitigate FM risks and ensure adequate fiduciary compliance, the project will adopt a centralized disbursement and payment processing at the head offices of the ministry, and all transfers to subagencies will be channeled through the existing PFM/GoG procedures. Internal audit departments will be empowered to undertake regular financial monitoring of Beneficiary Agencies, and a

World Bank financial management specialist (FMS) will undertake more periodic on-site supervision and support missions. The proposed mitigation measures for procurement will include (a) a training session for the IAs; (b) capacity building in procurement and contract management; and (c) strengthening of the procurement unit at the MLNR with an experienced procurement consultant for the first two years. If COVID-19 continues as it has, the project would provide additional ICT support for remote support monitoring.

143. **Environmental and Social (E&S) risk is assessed as Substantial.** This classification is based on the potential E&S risks and impact as well as the capacity of the IAs to manage the risks.

144. Potential environmental impacts may include air, noise, and water pollution; erosion; soil contamination; forest and land degradation; and the poisoning of non-target organisms associated with the use of pesticides. The impacts associated with these risks will be localized and are not likely to be significant, and there is low probability of serious adverse effects to human health and/or the environment. The impacts can easily be prevented and/or mitigated in a predictable manner. In addition, the project will utilize established capacities, protocols, manuals, and monitoring mechanisms developed under the previous/ongoing World Bank-supported interventions.

145. The potential social risks may be associated with permanent or temporary physical and economic displacement resulting from land acquisition, restrictions of access to and expansion of farms in FRs and parks, enforcement of forest land boundary demarcation, and enforcement of existing regulations and plans that restrict land-use rights in project areas. Other potential social risks may include child labor and poor labor conditions in cocoa plantations in forest landscapes and reclamation sites. Further, there could be risks associated with the hiring of labor and management for the rehabilitation of degraded areas and reclamation of mined-out lands and livelihood programs.

146. **E&S institutional capacity.** The IAs have experience implementing World Bank-funded projects with satisfactory performance in operationalizing the World Bank's Safeguard Policies, including under the Ghana SLWMP (P098538), Ghana FIP (P148183), Ghana Land Administration Project - 2 (P120636), Ghana Emissions Reductions Program (P160339), and a series of agricultural and land administration projects. However, the expanded scope of the Environmental and Social Framework requires targeted training, monitoring, and technical assistance to support the effective implementation of the project.

147. **E&S assessments and instruments.** To institute a general risk identification framework for assessing and managing the potential E&S risks, the project has prepared an ESMF, an RPF, a Gender Action Plan, and an SEP which includes a framework for managing grievance. These documents have been consulted upon and disclosed.

148. The project is currently preparing a SESA that will analyze the E&S policy implications of the ASM reforms being proposed under the project and inform interventions on revising ASM policies and regulations. SESA will be reviewed and approved by the World Bank and will be disclosed during project implementation.

149. The project has prepared an Integrated Pest Management Plan consistent with ESS3 (included in the ESMF). The Integrated Pest Management Plan has assessed the nature and degree of specific risks of pesticide use that will be associated with agriculture, plant nurseries, and agroforestry activities.

150. Project activities in designated FRs, National Parks (NPs), PAs, and biodiversity corridors will be screened using the ESMF to determine the need for a BMP, and thereafter, prepare the BMP as part of site-specific ESMPs. Notwithstanding, the project activities on agroforestry and forest landscape restoration will ensure invasive species are not introduced and activities in Protected Area (PAs) or FRs will enhance biodiversity protection and will minimize impacts on wildlife. **Gender and SEA/SH mitigation and response.** The SEA/SH risk of the project is rated Low using the World Bank SEA/SH risks assessment tool. However, the project presents an opportunity to advance gender inclusion in the forest landscape management and landscape management and SSM sector. The project has conducted a gender assessment which outlines the impact of the project interventions on women's livelihood, increasing their income and employment generation in the forestry and ASM sectors. A specific Gender Action Plan has been prepared to ensure gender inclusion and to enhance the implementation of the gender-related decisions and mandates of the project.

151. **Stakeholder risk is assessed as Substantial.** The project will need to engage and satisfy interests of many stakeholders, including communities, district-level authorities, regional authorities, landowners, and land users. It may be difficult to obtain equal buy-in from different groups on technologies for sustainable land, forest, natural resources management, and reforms in the ASM sector. However, the SEP prepared for the project serves as both the planning and management instruments for the project and (a) describes the project stakeholders and how they will be engaged during project preparation and implementation, with a focus on identifying vulnerable individuals or groups and applying measures to remove barriers to their participation; (b) describes the GRM to be used by the project, including any necessary language or cultural adaptations measures as necessary; and (c) includes budget, responsibilities, and implementation arrangements for the implementation of stakeholder activities under the project.

152. **Mitigation measures.** Consultative processes will be followed when engaging communities and stakeholder groups, based on the project SEP. Lessons from the ongoing SLWMP on organizing and consulting communities and other stakeholders will be used as well as existing stakeholder engagement manuals of the IAs. Strong communication and outreach materials will be used as part of the component on knowledge management.

153. **Other.** The COVID-19 impacts risk is assessed as Moderate. While the longer-term impacts from the ongoing COVID-19 pandemic remain hard to predict, it is likely that they will significantly affect both the economic and social well-being of the nation, with impacts most acutely felt by the already vulnerable rural poor. The social distancing measures put in place by the GoG due to COVID-19 are already limiting the much-needed face-to-face frequent awareness sessions and multi-stakeholder consultations to obtain support and ownership of the project at the community level. ASM communities are particularly vulnerable to infectious diseases because miners congregate in densely populated areas around recently discovered mineral deposits with no or limited infrastructure and sanitary facilities. Moreover, the prevalence of migrant workers will also pose an increased risk of accelerated contagion. In the longer term, it is likely that an economic downturn will push more unemployed people into informal mining as a coping strategy to seek an income. In terms of technical aspects of project implementation, COVID-19 impacts are assessed to be moderate as the project relies largely on domestic expertise and mainstreamed implementation arrangements, and procurement market analysis undertaken as part of project implementation identified that goods required for project implementation are available from domestic suppliers.

154. **Mitigation measures.** Restoring natural habitats, engaging in community-based information and outreach campaigns, and supporting communities on developing viable alternatives to some forms of livelihoods such as bushmeat hunting can be vital in reducing economic and health vulnerabilities of these populations. Support to agricultural productivity for cocoa and food crops and natural resource-based sustainable alternate livelihoods is, therefore, directly relevant for mitigating future risks while providing meaningful support to efforts aimed at preserving biodiversity in the target areas and reducing human exposure to zoonotic diseases. In addition to the community mobilization initiatives, the project support to regulatory reform of the ASM sector will help authorities manage the expected influx of informal artisanal miners and workers. Moreover, the planned support to gold buying centers should help ease the trading constraints caused by COVID-19 restrictions on national and cross-border movements. The project will need to employ ICT solutions at the local level to support project planning and implementation—these would build on the ongoing pilot with 360 cameras and virtual reality monitoring under the SLWMP as well as explore the use of other up-to-date technologies for remote monitoring.

155. **The project is also exposed to exogenous climate risks.** The overall climate risk is assessed as moderate. Ghana faces various climate and natural disaster risks, largely related to variability in and predictability of precipitation and increased temperatures. Drought and floods, wildfires, and erratic precipitation are becoming increasingly frequent in Ghana overall, and in the project area, especially the savannah zone. There is a potential for widespread impacts from climate change. Project outcomes may be undermined by climate change, and adaptation measures may not be fully available. However, based on the project-specific climate risk assessment, the project includes measures and activities aimed at mitigating these risks and their impacts on forested and savannah ecosystems and the vulnerable populations. These climate change risk management activities are likely to increase resilience and adaptive capacity of households, infrastructure, communities, and ecosystems.

VII. RESULTS FRAMEWORK AND MONITORING

Results Framework

COUNTRY: Ghana

Ghana Landscape Restoration and Small Scale Mining Project

Project Development Objectives(s)

to strengthen integrated natural resource management and increase benefits to communities in targeted savannah and cocoa forest landscapes

Project Development Objective Indicators

Indicator Name	PBC	Baseline	Intermediate Targets	End Target
			1	
To strengthen integrated natural resource management				
Areas for which land use planning has been undertaken under spatial sub-basin plans (Hectare(Ha))		0.00	4,976,372.00	12,440,931.00
Land area under sustainable landscape management practices (CRI, Hectare(Ha))		524,814.00	1,179,067.00	2,947,667.00
Area under conservation agriculture (Hectare(Ha))		0.00	44,160.00	110,400.00
Trees in production landscapes outside of forests (Hectare(Ha))		0.00	6,400.00	16,000.00
Area under collaborative, integrated and innovative management and with improved climate resilience (CREMAs) (climate indicator) (Hectare(Ha))		524,814.00	685,021.00	1,712,553.00
Area under improved catchment management (riparian vegetation) (Hectare(Ha))		0.00	2,320.00	5,800.00

Indicator Name	PBC	Baseline	Intermediate Targets	End Target
			1	
Area under sustainable forest management as a result of the project (in FRs and wildlife PAs) (Hectare(Ha))		0.00	430,566.00	1,076,414.00
Abandoned mine areas restored (Hectare(Ha))		0.00	800.00	2,000.00
Licensed ASM operators (Number)		1,029.00	800.00	2,000.00
Environmental and social management system for ASM established and operational (Yes/No)		No	Yes	Yes
To increase benefits to communities				
People in targeted areas with increased benefits as a result of the project (citizen engagement indicator) (Number)		0.00	102,918.00	257,296.00
Including sustainable land management practices (Number)		0.00	91,769.00	229,422.00
Including alternative livelihoods (Number)		0.00	10,832.00	27,080.00
including female (Number)		0.00	41,167.00	102,918.00
Including youth (Number)		0.00	14,857.00	37,143.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets	End Target
			1	
Component 1: Institutional strengthening for participatory landscape management				
Functional subnational (basin) level coordination platforms/structures (Number)		0.00	5.00	13.00

Indicator Name	PBC	Baseline	Intermediate Targets	End Target
			1	
Integrated sub-basin landscape plans developed (Number)		0.00	5.00	13.00
Targeted landscapes where planning for mining incorporates nature-based solution to mitigate negative environmental impacts (Number)		0.00	2.00	5.00
People participating in consultations / decision-making on natural resources management (citizen engagement indicator) (Number)		0.00	222,862.00	557,154.00
Including Female (Number)		0.00	111,431.00	278,577.00
Women participating in decision making processes through membership in District Management and Planning Committees (gender indicator) (Number)		0.00	16.00	39.00
Reforms in forest policy, legislation, or other regulations supported (Yes/No)		No	Yes	Yes
Planning tool/s developed and used for spatial planning and monitoring (Number)		0.00	2.00	5.00
Component 2: Enhanced governance in support of artisanal and small-scale mining				
Nationals trained in extractive industries skills (gender indicator) (Number)		0.00	4,000.00	10,000.00
Including Female (Percentage)		0.00	14.00	35.00
Formal categories of mineral license types available for registration (Number)		2.00	2.00	3.00
Gold purchase agents adopting gold trading tracking tool (Number)		0.00	4.00	10.00
Minerals Commission district and satellite offices refurbished (Number)		0.00	3.00	8.00
Component 3: Sustainable crop and forest landscape management				
Communities with endorsed micro watershed management plans consistent with the sub-basin		0.00	233.00	582.00

Indicator Name	PBC	Baseline	Intermediate Targets	End Target
			1	
plans and under implementation (Number)				
Farmers adopting agroecological practices (Number)		0.00	53,495.00	133,738.00
Land users adopting new practices in targeted landscapes (Percentage)		0.00	20.00	50.00
Functional infrastructure supported by the project (Number)		0.00	94.00	235.00
Post harvest structures (Number)		0.00	62.00	207.00
Water infrastructure established (Number)		0.00	11.00	28.00
CWMTs established with project support that have at least one woman (gender indicator) (Percentage)		0.00	40.00	100.00
Area under PES in production landscapes (Hectare(Ha))		0.00	4,000.00	10,000.00
Partnerships with actors along the sustainable value chain (Number)		0.00	2.00	6.00
For cocoa (Number)		0.00	1.00	3.00
For cashew (Number)		0.00	1.00	3.00
Forested land area under sustainable forest management practices (climate indicator) (Hectare(Ha))		524,814.71	1,115,587.00	2,788,967.00
Forest area brought under management plans (CRI, Hectare(Ha))		0.00	363,143.00	907,857.00
Management effectiveness according to METT score in target Protected areas (score, disaggregated): Gbele Resource Reserve, Mole National Park, Digya National Park (Number)		0.00		0.00
Gbele Resource Reserve (Number)		79.00	81.00	85.00

Indicator Name	PBC	Baseline	Intermediate Targets	End Target
			1	
Mole National Park (Number)		64.00	66.00	70.00
Digya National Park (Number)		45.00	49.00	55.00
CREMA Executive Committees established with project support that have at least four women (gender indicator) (Percentage)		0.00	40.00	100.00
Area under plantations and re-/afforestation – reforestation in FRs and buffer zones (Hectare(Ha))		0.00	1,526.00	3,814.00
Component 4: Project monitoring and knowledge management				
Government institutions provided with capacity-building support to improve management of natural resources (Number)		0.00	4.00	11.00
Project M&E system providing required reports and data in a timely manner (Yes/No)		No	Yes	Yes
Government counterparts participating in global, national and regional forums and workshops (Number)		0.00	6.00	15.00
Including Female (Percentage)		0.00	12.00	30.00

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Areas for which land use planning has been undertaken under spatial sub-basin plans	The areas for which the 13 targeted sub-basins have developed an integrated	Annually	Approved sub-basin plans.	Reported by the TCOs and captured as part of the regular M&E	EPA / Water Resources Commission

	land-use plan, which has been approved locally by the basin committees. The development of these plans is critical for ensuring that land resources are used and managed in a way that enhances absorptive and adaptive capacity to climate change, promoting resilience broadly at the landscape level.			reporting.	
Land area under sustainable landscape management practices	The indicator measures, in hectares, the land area for which new and/or improved sustainable landscape management practices have been introduced. Land is the terrestrial biologically productive system comprising soil, vegetation, and the associated ecological and hydrological processes; Adoption refers to change of practice or change in the use of a technology promoted or introduced by the project; Sustainable landscape management (SLM) practices refers to a	Semi-annually	District reports	Reported by the Districts and responsible PA and FR management team through TCOs and captured as part of the regular M&E reporting.	EPA with inputs by MOFA, WD, COCOBOD, MLNR, and FSD

	combination of at least two technologies and approaches to increase land quality and restore degraded lands for example, agronomic, vegetative, structural, and management measures that, applied as a combination, increase the connectivity between protected areas, forest land, rangeland, and agriculture land.				
Area under conservation agriculture	This includes crops areas with sustainable practices. The target by financing source is as follows: IDA = 52,800 ha; GEF = 39,600 ha; PROGREEN=18,000 ha. This indicator measures the absorptive capacity for resilience.	Same as main indicator.	Same as main indicator.	Same as main indicator.	MoFA
Trees in production landscapes outside of forests	The indicator refers to agroforestry system, which includes trees on cocoa, cashew, mango, and shea farms. The target by crop type and source of financing is as follows: Mango=2,000	Same as main indicator.	Same as main indicator.	Same as main indicator.	MoFA, COCOBOD

	ha (IDA); Cashew=3,000 ha (PROGREEN); Cocoa=1,000 ha + 1,000 ha (GEF+IDA); Shea=9,000 ha (IDA). This indicator measures the absorptive capacity for resilience.				
Area under collaborative, integrated and innovative management and with improved climate resilience (CREMAs) (climate indicator)	This refers to Community Resource Management Areas (CREMAs) and excludes Forest Reserves within these areas. The target by source of financing is as follows: IDA=1,006,789 ha; GEF=28,970 ha; PROGREEN=676,794. This indicator is an indirect measurement of strengthened capacity (absorptive, adaptive, and transformative) in resilience through improved management and coordination.	Semi-annually	Approved CREMA management / action plans	Reported by the WD and captured as part of the regular M&E reporting.	WD / EPA
Area under improved catchment management (riparian vegetation)	This includes communities within agricultural landscapes in the Northern Savannah region. The target by source of financing is as	Semi-annually	District reports	Reported by the TCOs and captured as part of the regular M&E reporting.	EPA

	follows: IDA=1,300 ha; GEF=1,300 ha; PROGREEN=3,200 ha.				
Area under sustainable forest management as a result of the project (in FRs and wildlife PAs)	This includes all targeted FRs plus the following Protected Areas (PAs): Mole, Gbele, Digya (gazetted areas where the project supports activities aimed at improving forest management, including preparation and implementation of management plans). These are the areas covered under SFM. It should be noted, for GEF attribution, SFM activities are also planned in the buffer areas around the FRs and account for 32,345 ha, these will be monitored separately outside of the results framework (refer to GEF equivalency table in the PAD Annex 4). The target by source of financing is as follows: IDA=862,000 ha (PAs) + 75,323 (FRs); GEF=49,123 ha (FRs); PROGREEN= 89,968 ha (FRs). This indicator is an indirect	Semi-annually	Activity reports	Reported by the FSD and WD and captured as part of the regular M&E reporting.	FSD and WD

	measurement of strengthened capacity (absorptive, adaptive, and transformative) in resilience through improved management and coordination.				
Abandoned mine areas restored	Abandoned mine sites are areas which are determined to have depleted the recoverable mineral resources and which are not under any license arrangements. This indicator measures the absorptive capacity for resilience.	Semi-annually	District reports	Reported by the Districts and captured as part of the regular M&E reporting.	MLNR
Licensed ASM operators	Licensed ASM licenses are permits awarded by the Minerals Commission to individuals or businesses as defined in the Minerals Act of 2006, or any preceding legislation.	Semi-annually	District reports	Reported by the Districts and captured as part of the regular M&E reporting.	MLNR
Environmental and social management system for ASM established and operational	An IT system to regularly monitor performance of license holders on the basis of approved Environmental and Social Management Plans.	Semi-annually	District Reports	Reported by the Districts and captured as part of the regular M&E reporting.	MLNR
People in targeted areas with increased benefits as a result of the project (citizen	These include: (i) small-scale crop farmers investing in	Semi-annually	District reports	Reported by the Districts and captured	EPA, MLNR, COCOBOD,

engagement indicator)	improved practices for crop production and landscape planning and management; (ii) those farmers that will benefit from alternative livelihoods support; (iii) people trained on sustainable ASM; (iv) number of legal workers/miners covered under ASM licenses (the average license comprises about 10 workers cooperative members). It also includes the rest of the community members in target communities who will be benefitting from the water and processing infrastructures supported by the project. It should be noted that adjoining communities are likely to benefit from these infrastructures as well. This number is not included in the EOP target but will be tracked, to the extent possible, during project implementation. The target by source of financing is as follows:			as part of the regular M&E reporting.	MoFA

	IDA: 13 districts x 22 communities x 412 community members = 117,832; CREMA beneficiaries = 12,080; ASM beneficiaries=15,000 PROGREEN: 5 districts x 24 communities (on average) x 412 community members = 49,440 GEF: 8 districts x 22 communities x 350 community members = 61,600 ; Direct beneficiaries of support on 2000 ha of moribund cocoa farms = 1,344				
Including sustainable land management practices	These are the number of beneficiaries with increased benefits from sustainable land and water management project activities. This indicator measures the absorptive capacity for resilience.	Same as main indicator.	Same as main indicator.	Same as main indicator.	EPA, MoFA
Including alternative livelihoods	These are beneficiaries benefitting from increased benefits from alternative livelihoods (beekeeping, poultry, shea, etc.).	Same as main indicator.	Same as main indicator.	Same as main indicator.	EPA, MoFA, MLNR

	This indicator measures the transformative capacity of resilience as an outcome of increased benefits.				
including female	These are women beneficiaries with increased benefits from the project (40% of total).	Same as main indicator.	Same as main indicator.	Same as main indicator.	EPA, MLNR, COCOBOD, MoFA
Including youth	These are youth beneficiaries with increased benefits resulting from the project. According to Ghana's national youth policy (2010), youth is defined as those between 15 and 35 years of age.	Same as main indicator.	Same as main indicator.	Same as main indicator.	EPA, MLNR, COCOBOD, MoFA

Monitoring & Evaluation Plan: Intermediate Results Indicators					
Indicator Name	**Definition/Description**	**Frequency**	**Datasource**	**Methodology for Data Collection**	**Responsibility for Data Collection**
Functional subnational (basin) level coordination platforms/structures	This refers to sub-national multi-stakeholder coordination platforms on land-use planning that build on the existing Basin Management Board of the various basins where the project is operating to ensure that meetings are regularly held and that all	Semi-annually	Regional and District Reports	Reported by the Regions and the Districts and captured as part of the regular M&E reporting.	EPA/Water Resource Commission

	key stakeholders are fully participating.				
Integrated sub-basin landscape plans developed	Integrated sub-basin landscape planning is conducted in a participatory fashion. The plans detail out management and use of sub-basins, outlining agreements to conserve and utilize the resources, and establishing by-laws for managing and implementing conservation activities and the distribution of benefits. The development of these plans is critical for ensuring land resources are used and managed in a way that enhances absorptive and adaptive capacity to climate change, promoting resilience broadly at the landscape level. This indicator measures the number of targeted sub-basins in the Project area that have developed a plan approved by the multi-stakeholder platform.	Annually	Regional and District Reports	Reported by the Regions and the Districts and captured as part of the regular M&E reporting.	EPA/Water Resource Commission
Targeted landscapes where planning for mining incorporates nature-based solution to mitigate negative	Integration of mining considerations into the PROGREEN five district	Annually	District reports	Reported by the Districts and captured as part of the regular	EPA

environmental impacts	development plans (PROGREEN indicator). This indicator measures the absorptive capacity for resilience.			M&E reporting.	
People participating in consultations / decision-making on natural resources management (citizen engagement indicator)	Includes people consulted during micro-watershed planning, preparation of Protected Area and Forest Reserve management plans, CREMA formation, mining planning and restoration activities.	Semi-annually	District reports	Reported by the Districts and captured as part of the regular M&E reporting.	EPA
Including Female	Same as parent indicator.	Same as parent indicator.	Same as parent indicator.	Same as parent indicator.	Same as parent indicator.
Women participating in decision making processes through membership in District Management and Planning Committees (gender indicator)	This indicator measures women's representation at the decision-making level. Typically each CREMA EC includes 1 to 2 women. The project aims to increase women's representation as decision makers further.	Annually	District Reports	Reported by the Districts and captured as part of the regular M&E reporting.	EPA
Reforms in forest policy, legislation, or other regulations supported	Measures policy / regulatory reform supported under Component 1 (for landscape and ASM sectors). This indicator would also measure progress under PROGREEN indicator	Annually	Review of the policy/regulatory documents.	Monitoring concerned Bills, decrees, etc.	EPA

	'Countries with policy and institutional framework improved'.				
Planning tool/s developed and used for spatial planning and monitoring	These tools include: Forest, Cocoa and ASM Monitoring Systems, Tree registration/counting/carbon accounting system, relevant databases and maps, Participatory mapping tools, Monitoring of sustainable cocoa production through the use of this improved Forest Monitoring System.	Semi-annually	Review of the respective tools.	Validation of developed tools.	EPA
Nationals trained in extractive industries skills (gender indicator)	Beneficiaries of training include government staff, operators and other stakeholders.	Semi-annually	District reports	Reported by the Districts and captured as part of the regular M&E reporting.	MLNR
Including Female	Same as parent indicator.	Same as parent indicator.	Same as parent indicator.	Same as parent indicator.	Same as parent indicator.
Formal categories of mineral license types available for registration	Mineral licenses which are recognized and defined in Legal Instruments.	Semi-annually	District Reports	Reported by the Districts and captured as part of the regular M&E reporting.	MLNR
Gold purchase agents adopting gold trading tracking tool	Gold trading agents in possession of a valid license to purchase and sell gold	Semi-annually	District reports	Reported by the Districts and captured as part of the regular	MLNR

	products in Ghana.			M&E reporting.	
Minerals Commission district and satellite offices refurbished	Offices which are recognized in the organizational structure of the Minerals Commission.	Semi-annually	District Reports	Reported by the Districts and captured as part of the regular M&E reporting.	MLNR
Communities with endorsed micro watershed management plans consistent with the sub-basin plans and under implementation	The micro-watershed plans follow the sub-basin plans and aim at achieving better management of natural resources and sustainable food production practices and in implementation of SLWM and sustainable food production practices at the community level. The target by source of financing is as follows: IDA = 264; GEF = 198; PROGREEN = 120.	Semi-annually	District Reports	Reported by the Districts and captured as part of the regular M&E reporting.	EPA
Farmers adopting agroecological practices	This indicator measures the number of users adopting sustainable land management practices in the targeted areas. Access to and adoption of agroecological practices improves resilience to climate change by increasing absorptive capacity, as well transformative capacity	Annually	District Reports	Reported by the Districts and captured as part of the regular M&E reporting.	EPA/MoFA

	when these new practices result in a fundamental change in how land resources are used and managed. Adoption refers to change of practice or change in the use of a technology promoted or introduced by the project. Admissible land management and improved technologies refers to a range of locally appropriate physical activities such as soil and water conservation (SWC), agroforestry, and other sustainable land management practices. The target by source of financing is as follows: IDA: 13 districts x 22 communities x 209 farmers = 59,774; CREMA beneficiaries = 11,550. GEF: 8 districts x 22 communities x 209 farmers = 36,789; Farmers benefitting from rehabilitated 1000ha moribund farms = 550. PROGREEN: a total of communities (in 5 districts) x 209 farmers = 25,080.				

Land users adopting new practices in targeted landscapes	PROGREEN specific indicator. Data to be collected in 5 districts receiving PROGREEN support only. Of the total community, what is the % of all farmers that by the end of the project use new practices (goes beyond the direct beneficiaries and captures the spillover and improved extension effects).	Semi-annually	District Reports	Reported by the Districts and captured as part of the regular M&E reporting.	EPA/MoFA
Functional infrastructure supported by the project	This indicator measures infrastructure put in place for water management and value addition. This indicator measures the adaptive capacity for resilience.	Annually	District Reports	Reported by the Districts and captured as part of the regular M&E reporting.	EPA/MoFA
Post harvest structures	These include storage and processing units for food and cash crops.	Same as parent indicator.	Same as parent indicator.	Same as parent indicator.	Same as parent indicator.
Water infrastructure established	These include boreholes, dugouts, weirs, check dams, small irrigation canal etc.	Same as parent project.	Same as parent project.	Same as parent project.	Same as parent project.
CWMTs established with project support that have at least one woman (gender indicator)	This indicator measures women's representation at the decision-making level.	Annually	District reports	Reported by the Districts and captured as part of the regular M&E reporting.	EPA

Area under PES in production landscapes	This indicator measures the area farmed by the farmers that receive performance-based payments. These farmers elect to participate in the scheme through establishing tree cover in the catchment areas. As part of the inputs, the project will provide mango tree seedlings to farmers to augment their current land uses: agricultural production of maize, groundnut, and rice. Contingent on 75 percent of trees surviving after one year (based on field verification), the project will pay cash incentives calculated using the Environmental Index (up to US$100 per ha) to participating farmers. The target by source of financing is as follows: IDA = 5,000; PROGREEN = 5,000. This indicator measures the absorptive capacity for resilience.	Semi-annually	Records for farmers participating in the PES scheme.	Reported by the TCOs and captured as part of the regular M&E reporting.	EPA
Partnerships with actors along the sustainable value chain	This indicator measures the number of partnerships formed by the project with	Annually	Progress reports	Reported by the PCU and captured as part of the regular M&E	EPA, MoFA, COCOBOD

	private sector companies working on cocoa and cashew to support farmers' to better access markets. This indicator measures the adaptive capacity for resilience.			reporting.	
For cocoa	Same as main indicator.	Same as main indicator.	Same as main indicator.	Same as main indicator.	COCOBOD
For cashew	Same as main indicator.	Same as main indicator.	Same as main indicator.	Same as main indicator.	MoFA
Forested land area under sustainable forest management practices (climate indicator)	This indicator measures total area of targeted CREMAs, Forest Reserves and Protected Areas that are under sustainable management practices. This indicator measures the absorptive capacity for resilience.	Semi-annually	District Reports	Reported by the Districts and captured as part of the regular M&E reporting.	Forest Services Division/Wildlife Division of the FC
Forest area brought under management plans		This indicator includes total area of targeted CREMAs, FRs and	Review of approved forest management plans.	Reported by the Districts and captured as part of the regular M&E reporting.	FSD and WD

		PAs and will be measured semi-annually. [N.B. Please note that the operations portal does not allow the insertion of definitions for CRIs, so we have inserted it here instead.]			
Management effectiveness according to METT score in target Protected areas (score, disaggregated): Gbele Resource Reserve, Mole National Park, Digya National Park	This indicator measures ongoing management effectiveness in the three targeted wildlife protected areas (Gbele Resource Reserve, Mole National Park, and Digya National Park). It is expected that project investments in protected areas management will increase effectiveness of their	Mid-term and end of project	Review of the METT scoring matrices.	Responsible staff in protected areas will complete the METT scoring matrices; these will be validated by HQ WD staff.	Wildlife Division of the FC

	management. This will be measured by applying the standard Management Effectiveness Tracking Tool (METT) score. PAs management is considered to be improved when there is an increase in a PA's baseline METT score. The METT is widely used by the Bank and other organizations to assess how effectively protected areas are being managed. It comprises a detailed questionnaire that covers a broad range of management effectiveness issues, with the total score for each protected area ranging from 0 to about 100. This indicator measures the adaptive capacity of resilience as modification / improvement in the ecosystem.				
Gbele Resource Reserve	Same as main indicator.	Same as main indicator.	Same as main indicator.	Same as main indicator.	Same as main indicator.
Mole National Park	Same as main indicator.	Same as main	Same as main	Same as main indicator.	Same as main indicator.

		indicator.	indicator.		
Digya National Park	Same as main indicator.	Same as main indicator.	Same as main indicator.	Same as main indicator.	Same as main indicator.
CREMA Executive Committees established with project support that have at least four women (gender indicator)	This indicator measures women's representation at the decision-making level. Typically each CREMA EC includes 1 to 2 women. The aims is to increase that representation further.	Semi-annually	District Reports	Reported by the Districts and captured as part of the regular M&E reporting.	Wildlife Division (WD)
Area under plantations and re-/afforestation – reforestation in FRs and buffer zones	This indicator includes: Enrichment planting within FRs = 2,304 (IDA) Green firebreaks establishment= 400 (PROGREEN) + 350 (IDA) Modified Taungya System (MTS)= 150 (IDA) Watershed and riverine planting within FRs=500 (IDA) Boundary planting of admitted farms=80 (GEF) This indicator measures the absorptive capacity for resilience.	Semi-annually	District reports	Reported by the Districts and captured as part of the regular M&E reporting.	Forestry Services Division (FSD)
Government institutions provided with capacity-building support to improve	Measuring Knowledge Management activities.	Semi-Annually	Activity reports of	Reported by the Districts and captured	EPA and MLNR

management of natural resources	Includes the following institutions: MESTI, MLNR, EPA, MC, MOFA, FC-FSD, FC-WD, FC-RMSC, Land Commission, GGSA, COCOBOD		respective knowledge management activities.	as part of the regular M&E reporting.	
Project M&E system providing required reports and data in a timely manner	The indicator measures the functionality of the M&E system.	Semi-annually	Progress reports	Ensuring that data collection is happening in timely fashion and being aggregated accurately with verifications in place.	EPA and MLNR
Government counterparts participating in global, national and regional forums and workshops	This is also a FOLUR gender indicator. The idea is to involve women in national, regional and global events and Conference of Parties (COPs) as the project will be sponsoring people to attend these.	Annually	Progress Reports	Attendance list of participants to forums and workshops	EPA
Including Female	Same as main indicator.	Same as main indicator.	Same as main indicator.	Same as main indicator.	Same as main indicator.

ANNEX 1: Implementation Arrangements and Support Plan

Institutional Context

1. MESTI is responsible for ensuring the establishment of the regulatory framework and setting of standards to govern the management of the environment for sustainable development. The EPA is an agency of MESTI dedicated to improving, conserving, and promoting the country's environment and striving for environmentally sustainable development with sound, efficient resource management, considering social and equity issues. MoFA promotes sustainable agriculture and thriving agribusiness through research and technology development, effective extension, and other support services to farmers, processors, and traders for improved livelihood. The FC is responsible for the regulation of utilization of forest and wildlife resources and their conservation and management. The FC's WD is responsible for ensuring conservation, sustainable management, and development of Ghana's wildlife resources for socioeconomic benefit to all segments of society. The FC's FSD is responsible for the implementation of policies, laws, regulations, and procedures guiding the management and exploitation of forest resources in Ghana. The FC's Resource Management Support Centre (RMSC) monitors the state of Ghana's forests. COCOBOD is responsible for encouraging the production, processing, and marketing of cocoa, coffee, and shea nut. Districts are governed by District Assemblies, which are established by the Minister of Local Government and serve as the highest political authority in each district.

2. The MLNR is mandated to ensure the sustainable management and utilization of the nation's lands, forests, and wildlife resources as well as the efficient management of the mineral resources for socioeconomic growth and development. The MC is the institution responsible for the regulation of the mining sector. The PMMC is mandated to purchase gold from all legal sources through its licensed buyers; it has a network of 800 licensed merchants. The GGSA has the responsibility for prospecting and undertaking surveys to identify and demarcate designated areas for ASM. Ghana EITI provides public insight to revenues from the country's mineral resources and produces regular reports on the same consistent with Ghana's commitments under the global EITI; it collaborates with the MC in the compilation and publication of sector statistics and reporting of operators' performance. District Mining Committees[60] (DMCs) are formed to assist the commission in monitoring SSM activities at the local level, according to the Minerals and Mining Act, 2006 (Act 703).

Project Implementation Arrangements

3. The proposed project implementation arrangements build on the multi-sectoral implementation modalities tested and perfected over time by the Ghana SLWMP, allowing for distinct implementation by the sectoral agencies in accordance with their statutory mandates while ensuring adequate multi-sectoral coordination and cooperation at the national, landscape, and district levels. Implementation of activities

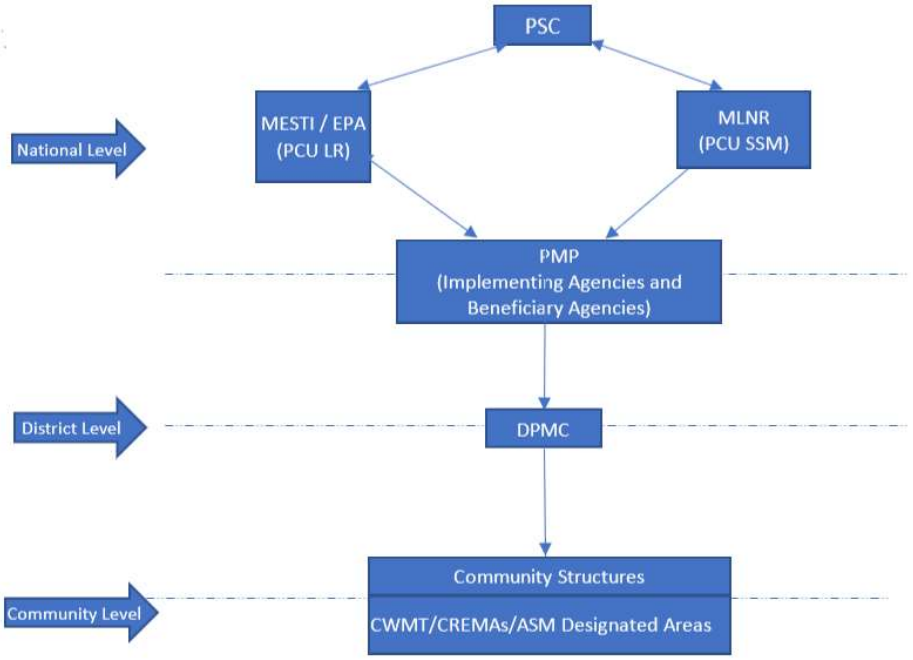
[60] Small-Scale Mining Committees established in every designated area and composed of (a) the district chief executive or the representative of the district chief executive; (b) the district mining officer appointed; (c) one person nominated by the relevant District Assembly; (d) one person nominated by the relevant Traditional Council; (e) an officer from the Inspectorate Division of the MC; and (f) an officer from the EPA.

at the community level will be led by the community governance structures, with adequate support and backstopping from the DPMCs.

4. Project implementation will take an integrated approach to planning activities, especially at the district level, while respecting implementation mandates of government agencies.

5. Implementation is aligned with existing government agencies and their mandates. The project has two IAs: EPA, responsible for landscape restoration activities, and MLNR, responsible for mining formalization activities. Each IA will have a dedicated PCU. The need to have two PCUs is based on lessons learned from other projects in Ghana, given the involvement of two ministries.

Figure 1.1. Project Coordination and Implementation Structure



National-Level Arrangements

(a) PSC

6. The PSC is the project oversight body responsible for strategic policy decisions and effective administration of the project through the approval of project work plans and budgets. The PSC shall be co-chaired by the ministers for MLNR and MESTI. Membership includes a policy decision body made up of representatives from collaborating ministries and an expert advisory group made up of chief executive officers (CEOs) and executive directors of IAs. The executive directors of the FSD and WD, both of the FC, the director of the Crop Services Directorate, and the two secretaries to the PSC are non-officio members of the PSC. They have no voting rights but may contribute to technical and policy issues concerning project implementation. Other consultative groups providing support services to project implementation could be co-opted into the steering committee when needed. The PSC shall be required to convene meetings twice every year. The composition of the PSC is provided in table 1.1.

Table 1.1. Composition of the PSC

MLNR	Executive Secretary, Water Resources Commission
MESTI	Chief Executive, COCOBOD
Ministry of Local Government and Rural Development	Representative of Coalition of Environmental nongovernmental organizations (NGOs)
Ministry of Gender, Children and Social Protection	Ghana National Association of Small-Scale Miners
MoFA	WCF
Ministry of Finance	Women in Mining
National Development Planning Commission	Executive Director, FSD
Chief Executive, FC	Executive Director, WD
CEO, MC	Director, Directorate of Crop Services, MoFA
Executive Director, Land Use and Spatial Planning Authority	Project Coordinator, PCU-Mining (Secretary)
Executive Director, EPA	Project Coordinator, PCU-Landscape Restoration (Secretary)

(b) PMP

7. The PMP provides a forum to deliberate on technical issues concerning project implementation. Membership includes the project focal persons from project IAs, Beneficiary Agencies, and other technical institutions relevant for project implementation. This platform is responsible for taking technical decisions on project implementation, including development of work plans and budgets, technical review of project performance, and review of progress reports. The PMP shall be required to meet once every quarter to review project performance and discuss the way forward to achieving the project objectives. At the early stages of project implementation, the PMP will be required to meet once every month. The PMP shall be jointly chaired by the Chief Directors of the MLNR and MESTI. Members of the PMP shall be drawn from IAs and Beneficiary Agencies as listed in table 1.2.

Table 1.2. Composition of the PMP

Chief Director, MLNR (Co-Chair)	Chief Director, MESTI (Co-Chair)
MC	Water Resources Commission
FSD (FC)	COCOBOD
WD (FC)	EITI
Lands Commission	Directorate of Crop Services, MoFA
PMMC	Project Coordinator PCU-Mining
EPA	Project Coordinator PCU-Landscape Restoration
GGSA	

Landscape-Level Arrangements

(a) LSCs

8. The LSC is the project oversight body responsible for strategic policy decisions and effective administration of the project within the project implementing regions. The LSC shall be jointly chaired by

the regional ministers for the project regions on a rotational basis. Membership includes regional directors of IAs, regional planning officers of project regions, district chief executives of project districts, district coordinating directors of project districts with the head of the TCO serving as secretary. There will be two LSCs: one for the NSZ project areas and one for the cocoa forest landscape (Forest and Transitional zones) project areas.

9. The LSC will meet twice a year to review project implementation progress within the regions and provide strategic directions to ensure project activities remain on track within the implementation districts within their respective zones. The LSCs will also provide the platform to resolve implementation challenges within their respective jurisdictions.

(b) TCOs (NSZ and Cocoa Forest Landscape)

10. TCOs will be responsible for providing technical backstopping to project districts within their zonal areas of operation. The TCOs will be hosted by the Ashanti and Upper East EPA regional offices. Membership includes technical personnel from IAs within the host region, regional representative of Ghana National Fire Service, basin officer from the respective basin offices (for example, Pra Basin Board), and other relevant technical institutions relevant for the successful implementation of the project. The TCO for the NSZ will be responsible for the project districts in Upper East, Upper West, North East, and Savannah regions. The TCO for the cocoa forest landscape will be responsible for project districts within the forest and transitional ecological zones. Each TCO will host the secretariat of its respective LSC. Membership of the TCOs is detailed in table 1.3.

Table 1.3. Membership of the TCOs

Regional Director, EPA	Regional Representative of Ghana National Fire Service
Natural Resource Technical Staff of Regional Department of Agriculture	Technical Person from MC (closest district office)
Regional FSD Representative	Regional Representative from COCOBOD – Cocoa Health and Extension Division (for cocoa forest landscape)
Regional WD Representative	Representative from one or two relevant technical institutions (may be co-opted)
Water Resources Commission (WRC) Basin Officer	Regional Representative of Coalition of Environmental NGOs

District-Level Arrangements

(a) DPMC

11. The DPMC is responsible for coordinating project implementation at the district level. The DPMC is chaired by the district chief executive assisted by the district coordinating director who is the technical and administrative head of the District Assembly. Membership of the DPMC includes representatives of IAs at the decentralized level on both sides of the project (Landscape Restoration and SSM). They shall be responsible for project implementation, data generation, processing, archiving and transmission to the regional and national offices, preparation of work plans and budgets at the district level (where necessary), and monitoring and technical backstopping on project interventions. They will support the project activities at the operational/community level and in ASM-designated areas. The DPMCs will lead

participatory processes related to the preparation of community watershed management plans at the micro-watershed level. Membership of the DPMC is detailed in table 1.4.

Table 1.4. Membership of the DPMC

District Chief Executive (chairperson)	District Planning Officer
District Coordinating Director	District Gender Officer
Representative from District Mineral Commission Office	District Forest Manager
Representative from EPA Regional/Zonal Office	WD Park Manager (where applicable).
District Representative of the Ghana National Association of Small-Scale Miners	District Community Development/Social Welfare Officer
Department of Agriculture	Ghana National Fire Service

12. The DPMC will meet on a quarterly basis to review project implementation progress and resolve implementation challenges. Implementation challenges that go beyond the DPMC will be referred to the LSC in the case of land restoration and the DSC in the case of mining.

13. Following the participatory micro-watershed planning and agreement on the overall program of project activities within each district, MoFA will implement most SLWM activities in agricultural lands through district departments of agriculture and extension officers, including capacity strengthening and development and monitoring and support for sub-project agreements under Subcomponent 3.1. The MoFA Directorate of Crop Services will provide oversight of these activities at the national level, including technical backstopping from the Environment, Land and Water Management Unit, as necessary.

(b) DSMC

14. The Mineral and Mining Act 2015 section 92 makes provision for the establishment of DSMCs. For project implementation, the DSMC, as a statutory body, shall be responsible for project oversight and policy decisions on SSM operations within the mining districts. This committee is chaired by the district chief executive who is the political head of the District Assembly. They approve district work plans and budgets and empower the DPMC to implement project activities at the district and community levels. Membership of the DSMC as provided in the law is as follows:

(a) District chief executive

(b) District officer appointed under section 90(2)

(c) Representative from the Inspectorate Division of the MC Office

(d) Representative from Regional/Zonal EPA Office

(e) Representative from the relevant District Assembly

(f) Representative from the relevant Traditional Council.

Sub-District and Community-Level Arrangement

(a) CWMT

15. The CWMT leads watershed management activities at the community level and is responsible for mobilizing community members for project activities. It is the link between the community and the DPMC The CWMT is also responsible for receiving project input incentives supplied to the community for implementation of project activities and supporting the Department of Agriculture and FSD manager to distribute inputs to project beneficiaries. It has the additional responsibility of monitoring project implementation at the community level. Members are selected by the community from different sections/ethnic groups of the community with strong gender representation. Depending on the population of the community, membership should range between 7 and 9. The CWMT will work in close collaboration with the community chief.

(b) CRMC - in CREMAs

16. The CRMC is the local unit of organization and forms at the level of each community, based on existing community decision-making structures. The CRMC is responsible for mobilizing community members for the planning, development, implementation, and monitoring of Community Resources Management Plans. The CRMC is also responsible for the enforcement of bylaws governing natural resources within the jurisdiction of the community which is part of a CREMA. Membership of the CRMCs is by election organized in the community.

(c) CEC

17. The CEC is the highest decision-making body of CREMA, formed from the CRMCs with technical support from the WD. It is recognized by the District Assembly, traditional authorities, and any relevant local organization as the duly constituted governance body for CREMA. Its powers are derived from the constitution of CREMA and the CREMA gazettement instruments. The CEC is an umbrella executive of all CREMA communities within a CREMA establishment. The CEC is responsible for facilitating the planning, development, implementation, and monitoring of CREMA management plans. The CEC is also responsible for coordinating between the District Assembly and CREMA communities with respect to mobilizing support for the implementation of CREMA management plans and enforcement of bylaws governing CREMA.

Implementation Responsibilities

- Activities in and around PAs and in wildlife corridors (including CREMAs) will be implemented by the FC, through its WD.
- Activities in and around FRs will be implemented by the FSD of the FC.
- The EPA will lead implementation of riparian restoration activities.
- Activities in support of ASM formalization will be coordinated by the MC district offices. These activities will be implemented in a more phased approach given the time needed at

the start of project implementation to sequence activities that lay the ground for implementation (for example, feasibility studies and SESA).

- COCOBOD will lead engagement with cocoa farmers and along the cocoa value chain.
- MoFA will lead implementation of activities in the agricultural landscapes.

18. Experienced local NGOs will be mobilized to support community engagement in both corridors and agricultural lands, providing extra capacity for community planning and institutional development exercises, including discussion and drafting of SLWM agreements with farmer groups and complementing the technical expertise of district and regional staff.

19. The Water Resource Commission leads sub-basin-level planning activities which could serve as the basis for a more integrated action planning to address trade-offs of competing land uses and address water and land planning. For the project, such sub-basin-level planning could have multiple benefits, including

(a) Support for land degradation-neutral farming;

(b) Help ensuring women's access to land ownership, markets, and credits for investments in land;

(c) Establishment of and scale up and support (with extension services and capacity building) for CREMAs to incentivize and decentralize local land-use management; and

(d) Reclamation of mined-out areas and their conversion into economically productive assets available for community revitalization.

20. Details regarding implementation of specific activities are included in the activities' description in the PIM.

Financial Management and Disbursement Arrangements

21. In line with the guidelines as stated in the FM Practices Manual for World Bank IPF operations issued effective on March 1, 2010 and last revised on February 10, 2017, an FM assessment was conducted at the two lead IAs, namely (a) the MLNR and (b) the EPA. The project will emphasize the use of country systems in line with the World Bank's default position of using those aspects of the county system deemed reliable. The project's FM systems for all the IAs will, therefore, be mainstreamed as part of the existing GoG arrangements according to the PFM Act, 2016 (Act 921).

22. The objective of the assessment is to determine whether (a) the lead IAs have adequate FM arrangements to ensure the project funds will be used for purposes intended in an efficient and economical way; (b) the project's financial reports will be prepared in an accurate, reliable, and timely manner; and (c) the entities' assets will be safeguarded.

23. Consistent with the World Bank's default position and practice of using those aspects of the county system deemed reliable, the project will emphasize the use of the country's fiduciary and PFM systems to support implementation. The project's FM systems will therefore be mainstreamed as part of the existing GoG arrangements as per the PFM Act, 2016 (Act 921), and complemented by the PIM.

24. The assessment of the project's FM arrangements indicates that they satisfy the World Bank's minimum requirements according to the World Bank Policy for IPF, and the overall FM residual risk is assessed as and rated Substantial. The reasons include multiple agencies implementing key aspects of the project each with its own approval and authorization arrangements and transfer of funds (on an imprest basis) to the different IAs that may not have similar fiduciary capabilities.

25. That said, the risk is mitigated by adopting a centralized FM arrangement within the respective ministries. Again, both key IAs have been involved and are currently implementing other IDA-funded projects and the FM performance is considered as satisfactory without any significant internal control lapses of fiduciary weakness observed. In addition to the above mitigation measures, the project's FM will be strengthened by adhering to the policies, rules, and procedures as stated in the PIM which provides guidelines on budgeting, financial reporting, funds disbursement procedures, FM monitoring, control, and external audit arrangements. Project implementation will, where practical and reasonable, rely on the existing government FM systems for project implementation and oversight with due consideration for matters highlighted during previous missions.

26. The FM risk rating will be assessed periodically (quarterly) during implementation. The key FM arrangements are as follows: In line with the World Bank's default of using those aspects of the county system which are reliable, the project's FM systems are expected to be largely mainstreamed as part of the existing GoG fiduciary arrangements but where necessary complemented by the PIM.

Project FM

27. Within each of the two key IAs, that is, the EPA and the MLNR; the director of accounts at the EPA and the financial controller at the MLNR will be responsible for the overall FM of their respective components. Within each of the agencies, the routine and daily transaction processing will be assigned to a dedicated project accountant assigned by the director of accounts and imbedded as part of the PCU.

28. The responsibility of the project accountant or the FMC is to ensure that throughout implementation, there are adequate FM systems in place which can report adequately on the use of project funds. The project accountant will be tasked with maintaining oversight responsibilities with regard to ensuring compliance with financial covenants such as preparing withdrawal applications, submitting IUFRs, maintaining internal controls over project expenditure, and engaging external auditors. The project accountant will also be responsible for maintaining and operating the project's DA and will support the processing of payments to contractors and service providers, including ensuring that all payments comply with the established internal control guidelines according to the GoG PFM Act and in line with the World Bank guidelines.

29. Specifically, and in terms of systems for accounting and financial reporting, the project will use the existing GoG accounting and reporting processes and guidelines as provided by the Ministry of Finance, the CAGD, and the GAS. Currently, the GoG is implementing and rolling out the Ghana Integrated Financial Management Information System (GIFMIS) which will be the only system for FM of all funding, that is, discretionary budget allocations, donor funding, and internally generated funding. The GIFMIS will be the primary system for transaction recording to enable the timely preparation of monthly/quarterly financial reports related to the overall project expenditures. Before implementation, the GIFMIS department within the CAGD shall be tasked with supporting the implementing ministries, departments, and agencies (MDAs) in configuring the system to allow for accounting and reporting on the use of the

project funds. With regard to annual audits, the GAS, according to its mandate will be required to audit the project funds and issue acceptable audit reports to IDA not later than six months after the previous year-end.

Strengths and Weaknesses of the FM System

30. Within both IAs, the Accounts and Finance Department has a fully functioning Accounts Unit which is staffed with a mix of qualified and unqualified accountants with varying levels of experience in public sector accounting. At the MLNR, the Accounts Unit is currently implementing the FIP and the performance is considered as satisfactory without any significant internal control lapses of fiduciary weakness. It is expected that the PCU will collaborate and rely on this knowledge. Similarly, the accounts staff at the EPA have been part of the implementation of the ongoing SLWMP and will provide technical support when needed to the EPA PCU accounts staff.

31. A possible weakness could arise from the inherent risk associated with challenges in interdepartmental coordination, oversight, and controls between the PCU and the key IAs. Specifically, for FM, this could result in delays in preparing and approving consolidated budgets, delays in releasing of funds, and challenges in providing appropriate supporting documentation. This risk is primarily being mitigated through the creation of the FM Working Group to discuss and resolve all fiduciary matters and any expected bottlenecks.

32. In addition to the above mitigation measures, the project's FM will be strengthened by adhering to the policies, rules, and procedures as stated in the PIM which provides guidelines on budgeting; financial reporting; funds disbursement procedures; and FM monitoring and control; and external audit arrangements. Project implementation will, where practical and reasonable, rely on the existing government FM systems for project implementation and oversight with due consideration for matters highlighted during previous missions.

A Summary of the Assessments of the FM Arrangements

(a) Budgeting Arrangements

EPA

33. As a government agency, the EPA follows the budget preparation guidelines according to the PFM Act, 2016 (Act 921) and the annual budget guidelines issued by the Ministry of Finance. Before the start of the budget cycle, the project coordinator will have discussed the various activities and work programs with the respective implementing and beneficiary agencies at the national and subnational levels, and this will form the basis for preparing detailed annual work plans (AWPs) and budgets. Based on these discussions, the director of finance gives the senior finance officer (headquarters) the go-ahead to circulate the budget template to all regional and subregional offices to be populated by the regional directors and accountants by June of the current year. Once completed, the templates are submitted to the headquarters senior finance officer for consolidation. Consolidated AWPs and budgets will be submitted to the PSC for review and approval and onward submission to the World Bank for review and clearance by November 30 each year to ensure that the planned activities are in line with the PDOs.

MLNR

34. The MLNR, as a government MDA, follows the budget preparation guidelines according to the PFM Act 2016, (Act 921) and the annual budget guidelines issued by the Ministry of Finance. Specifically, for this project, the budget will be derived from the funding allocations which will serve as the basis for preparing the initial AWPs and Procurement Plans. The project coordinator is responsible for initiating the budgeting process for the project and obtains inputs (activities, schedules, timelines, and cost) from the beneficiary agencies. Once the draft budget estimates are completed internally, the report will be forwarded through the Chief Director for onward submission to members of the Project Oversight Committee. Following the review and approval of the budget by the Oversight Committee, the Project Director, on behalf of the Chief Director will share the same to the World Bank for clearance.

35. During project implementation, the budgeting for all participating agencies will be coordinated with the support of the project coordinator working in collaboration with respective focal persons within the implementing and beneficiary agencies and a consolidated budget prepared. Once the budgets are completed, they will be approved by members of the Oversight Committee for onward submission to the World Bank for review and clearance. The current budgetary control processes used mostly for the Government's discretionary budget are capable of monitoring commitments and outstanding balances, and this helps reduce the risk of multiple payments. The assessment indicates that budgeting processes are satisfactory and can be relied upon to reflect the various components to be implemented. In addition, the World Bank-approved PIM will outline the budgetary processes for preparing the AWPs.

(b) Accounting Arrangements

EPA

36. Within the EPA, the director of finance is responsible for the overall fiduciary aspects of project implementation. The primary responsibility of the director of finance is to ensure that throughout implementation, there are adequate FM systems in place which can report adequately on the use of project funds. The director is a chartered accountant with several years of experience and will be responsible for reviewing all payment requests, approving bank reconciliations, and reviewing periodic reports, including those prepared for IDA. To ensure adequate segregation of duties, the director will be supported by a finance officer and two senior accounts officers who will be primarily responsible for managing day-to-day accounting operations such as raising fund request forms and other accounting tasks.

37. The EPA currently prepares financial reports and performs bank reconciliations using Pastel accounting software for project reporting. Payment vouchers are manually prepared using Microsoft Excel and therefore have an inherent risk of duplication or omission during reporting. Given that the GoG recently introduced the GIFMIS and has rolled out a feature which allows for customization of the software to account for donor-funded activities, it is urged that the EPA PCU fully transition from the existing Pastel and manual voucher process to the GIFMIS software. Once implemented, the GIFMIS will be the primary basis for transaction recording to enable the timely preparation of monthly budget execution reports related to the overall project expenditures managed under the auspices of the CAGD. The full migration of the EPA accounting function to the GIFMIS will be monitored by the World Bank FMS to ensure timely completion.

MLNR

38. The overall FM responsibility throughout implementation will be handled by the financial controller at the MLNR. The responsibility of the financial controller is to ensure that throughout implementation, there are adequate FM systems in place which can report adequately on the use of project funds. To strengthen the accounting function, the MLNR has recruited a dedicated FMC. The FMC will be responsible for managing the operational and day-to-day transaction processing and collation of financial reports from the MLNR IAs by working in collaboration with the accounts staff of the beneficiary agencies, including the MC, GSA, Lands Commission, Ghana EITI, and PMMC.

39. In terms of accounting systems, the GoG is in the process of rolling out an automated integrated financial management system (GIFMIS) using Oracle Financials and is currently transitioning from a manual-based system to an automated accounting system. Within the MLNR, the process of migrating donor-funded projects is ongoing. The MLNR project unit has been urged to closely work with the GIFMIS Secretariat to ensure that the project configuration commences as soon as the Financing Agreement is signed. Ultimately, it is expected that the project financial transactions will be processed using the GIFMIS as is currently the case with other IDA projects.

(c) Internal Control and Internal Auditing

40. Consistent with the decision to adopt some aspects of the use of country systems for implementation, the project's internal controls will rely on the government-established accounting and internal control guidelines as documented in the PFM Act, 2016 (Act 921) and any subsequent regulations and the Internal Audit Agency Act 2003 (Act 658). Both MLNR and EPA have a functioning internal audit unit headed by the head - internal auditor who is adequately qualified and experienced to help ensure a sound control environment throughout implementation. In addition, there are audit committees in place to ensure independence and they are responsible for reviewing the Internal Audit Unit's reports and ensuring that the recommendations are implemented.

41. Currently, the internal control features within the GoG provide for pre-auditing of government expenditure transactions. This form of expenditure validation, as part of the payment processing arrangements, will continue and will cover all expenditures before their approval, including those under the project.

42. In addition, the expenditure initiation and related controls will follow the authorization and approval processes pertaining to all government MDAs and complemented by additional guidelines according to the World Bank FM and Disbursement policy and the PIM.

43. The EPA has a functioning Internal Audit Unit which helps promote a sound control environment for transaction processing. The Internal Audit Unit is managed by a chartered accountant and supported by four internal audit staff with a mix of relevant skills and qualifications. The EPA Internal Audit Unit utilizes the Institute of Internal Auditors Performance Audit Manual, as updated periodically. It is expected that as part of the normal internal audit planning, the chief internal auditor will include the audit of project activities in the schedule. At a minimum, the internal auditor is expected to undertake half-yearly audit reviews and share copies of report with the World Bank.

44. The World Bank team's assessment indicated that the internal audit and control environment is adequate and can be relied upon to support implementation; however, there are systemic challenges in the capacity of audits at the subnational level and the World Bank will work with the various internal audit units to strengthen their capacity. The role of the Internal Audit Unit will be regularly assessed during implementation support missions by reviewing their reports and management responsiveness to their findings. This is to ensure that the role is not limited to transactional reviews (pre-auditing) but adds value to the overall control environment through risk assessment. The Internal Audit Unit is expected at a minimum to issue half-yearly review reports on the reliability or otherwise of the internal control environment and in addition highlight any new risks and propose mitigation measures to address such risks.

(d) Funds Flow and Disbursement Arrangements

45. The proposed operation is estimated at US$103.36 million, jointly funded with an IDA allocation of US$75.00 million, and three trust fund grants as follows: (a) a GEF trust fund allocation of US$12.76 million; (b) US$15 million from PROGREEN; and (c) US$0.60 million from EGPS, to be allocated to the implementing and beneficiary agencies according to the respective components. In terms of the total allocation, the MLNR will be allocated an amount of US$38.10 million from IDA and EGPS, while the remaining funds of approximately US$65.26 million shall be allocated to the EPA.

46. Proceeds of the finance will be used by the Implementing and beneficiary/participating MDAs for payment for eligible expenditures as defined in the Financing Agreement and further detailed in the respective AWPs and budgets and Procurement Plans. Disbursement arrangements have been designed in consultation with the Borrower after considering the assessments of the IAs' FM capacities and anticipated cash flow needs of the operation.

47. Transfers from the main DA will be made on an **Imprest basis** to selected beneficiary agencies. These funds will be advanced to the participating beneficiaries based on their approved annual plans. In outline terms, the processes can be summarized as follows (specific details are in the PIM)-:

48. Beneficiary agencies submit AWPs to the PCU for consolidation as part of project AWP and budget no later than November 30 of each year, except for the AWP and budget for the first year of project implementation, which will be prepared no later than one month after the project effective date.

(a) AWP is reviewed and approved by the World Bank, including six months cash forecast which is the basis for drawdown into the DA.

(b) Funds from the DA are transferred to selected beneficiary agencies, based on a portion of their approved work activities i.e. three months estimates subject to a maximum ceiling not exceeding US$200,000

(c) On a monthly basis the beneficiary agencies will prepare and submit a statement of expenditure (SOE) to the Project Accountant for review and clearance and accept or reject any expenses.

(d) The Project Accountant and the Internal Auditor will on a sample basis request for any additional documentary evidence from the agencies to validate and verify the expenses.

(e) These expenses/SOE will then be incorporated in the quarterly IUFR for submission to the World Bank.

(f) Note, further advances to beneficiary agencies will only be made when at least 75 percent of the earlier advances have been accounted for through satisfactory SOE returns.

EPA

49. The EPA will be responsible for implementing Subcomponents 1.1, 1.2, and 4.1 and Component 3 (with exception of component 3.5), and these will be funded with allocations from IDA and two trust funds (GEF and PROGREEN). If triggered, CERC will be also implemented by the EPA. At the EPA, the proposed arrangement is to have a single US dollar pooled DA located at the Bank of Ghana (or at a commercial bank acceptable to the World Bank) to support implementation. The DA will be pooled for IDA and the two trust funds.

50. Within the EPA, the DA shall be under the direct responsibility of the executive director of the EPA but managed and operated by the director of finance of the EPA in collaboration with the project coordinator and the project accountant.

51. The daily transactional processing and reporting on the DA shall be done by the project accountant, who is a staff of the CAGD and part of the PCU and reports functionally to the project coordinator and under the authority of the chief director. The project accountant shall be supervised technically by the director of finance and will be the focal person and the liaison with the World Bank FMS on all fiduciary matters concerning the DA.

52. In addition to the single US dollar pooled DA, the EPA may open local currency (GHS) 'project accounts' to facilitate local currency payments and transfer to the key beneficiary agencies involved in the project, that is, MoFA, COCOBOD, WD, FC, and others that may be considered appropriate to facilitate the implementation.

53. On receipt of funds into the DA, the Project Coordinator working in collaboration with the Chief Director, Executive Director, and Director of Finance shall transfer, on an imprest basis, the quarterly funds allocations to the 'project accounts' of the participating beneficiary agencies. These transfers will be based on a forecast of activities for the subsequent quarter subject to a maximum ceiling as stated in the PIM. It is expected that on a periodic basis, the beneficiary agencies shall document at least 75 percent of outstanding balances before further funds will be advanced. The expenditure from the beneficiary agencies shall be consolidated as part of documentation for the US dollar DAs. It must be noted that all transfers to the beneficiary agencies will be channeled through the respective head office of the agency and there will be no direct transfer to districts or the regional office from the EPA PCU.

54. The operations, including transfers and reconciliation of these subsidiary accounts, will follow the GoG approval and authorization hierarchy pertaining to the respective agency and as detailed in the PIM.

MLNR PCU

55. The MLNR PCU will be responsible for implementing Subcomponents 1.3, 3.5, and 4.2 and Component 2, and these will be funded from the IDA allocation with an amount of US$37.50 million (including PPF in the amount of US$3.00 million) and the EGPS grant of US$0.60 million. The two sources

funding will be segregated and not pooled. At the MLNR PCU, the proposed arrangement is to have two US dollar DAs located at the Bank of Ghana (or at a commercial bank acceptable to the World Bank) to support implementation, one DA per financing source (IDA and EGPS). The DAs shall be under the direct responsibility of the chief director of the ministry but managed and operated by the financial controller in collaboration with the project coordinator and the FMC.

56. The daily transactional processing and reporting on the DAs shall be done by the FMC who is part of the PCU and reports functionally to the project coordinator and under the authority of the chief director. The FMC shall be supervised technically by the financial controller and will be the focal person on all fiduciary matters concerning the DAs.

57. In addition to the two US dollar DAs, the MLNR may open local currency (GHS) 'project accounts' to facilitate local currency payments and transfers to the key beneficiary agencies involved in the project, as may be considered appropriate to facilitate the implementation. The operations, including transfers and reconciliation of these subsidiary accounts, will follow the GoG approval and authorization hierarchy further detailed in the PIM. The types of expenditure envisaged to be funded under the imprest will be mainly operational cost-related expenses related to monitoring and field work and shall not be used to finance procurable expenditures such as goods, small works, consultancy, and non-consultancy expenses.

58. All significant capital expenditure including procurements will be processed centrally at the EPA headquarters and the MLNR project unit, respectively, on behalf of the IAs. The limits and ceilings and descriptions of such activities will be detailed in the PIM.

Disbursement Arrangements

59. For both IAs and for the three DAs, proceeds of the financing will follow the standard World Bank procedures for IPF, for use by the Borrower for eligible expenditures as defined in the Financing Agreement. Funds flow and disbursement will be implemented under the principles of traditional IPF arrangements using the report-based disbursement arrangements. Under this arrangement, the allocated resources will be advanced to the respective DAs based on an approved six-monthly forecast of expenditures and replenished quarterly for further periods of six months using IUFRs.

60. Upon effectiveness, the initial request for advance will be based on the consolidated expenditure forecast for six months, subject to the World Bank's, that is, task team leader and FMS, approval of the estimates and cash flows. Subsequent replenishments of the DA will be done quarterly, based on the forecast of the net expenditures and cash flow requirements for the subsequent half-year period. The IUFRs and DA reconciliation statement will serve as the basis for requesting for advances and for documentation.

61. Additional instructions on disbursement arrangements for the project shall be included and detailed in the Disbursement and Financial Information Letter.

62. **Retroactive financing** in the total amount up to US$0.25 million from IDA credit proceeds will be made available for eligible expenses made after March 1, 2021, at the request of the MLNR for operating expenses under Category 1 in the IDA financing agreement, and US$0.05 million from EGPS funds expenditures will be made available for eligible expenses made after May 3, 2021, under Category 1 in the EGPS grant agreement.

Table 1.5. Disbursement Categories

Category	Amount of the IDA Credit Allocated (US$)	Amount of the GEF Grant Allocated (US$)	Amount of the PROGREEN Grant Allocated (US$)	Amount of the EGPS Grant Allocated (US$)	Percentage of Expenditures to Be Financed (inclusive of Taxes): IDA/GEF/PROGREEN
MLNR Goods, works, non-consulting services, consulting services, training and operating costs for Parts 1.3, 2 (except 2.1 (e), 3.5, and 4.2 of the project	34,500,000 IDA Category 1	—	—	—	100
Goods, non-consulting services, consulting services, training and operating costs for Parts 2.1 (e) of the project	—	—	—	600,000 (EGPS Category 1)	100
Refund of Preparation Advance	3,000,000 IDA Category 2	—	—	—	Amount payable pursuant to Section 2.07 (a) of the General Conditions
EPA Goods, works, non-consulting services, consulting services, training and operating costs for Parts 1.1, 1.2, 3.1 including sub-projects under Part 3.1(c) of the project; 3.2 (except 3.2(f)), 3.3, and 4.1 of the project	32,105,000 (IDA Category 3)	12,756,881 (GEF Category 1)	12,260,000 (PROGREEN Category 1)	—	56/22/22/0
Performance-based Payments under Part 3.2(f) of the project	415,000 (IDA Category 4)	0	210,000 (PROGREEN Category 2)	—	66/0/34/0
Goods, works, non-consulting services, consulting services, training and operating costs under Part 3.4 of the project	4,980,000 (IDA Category 5)	—	2,530,000 (PROGREEN Category 3)	—	66/0/34/0
Emergency expenditures under Part 5 of the project	0 (IDA Cat 6))	—	—	—	100
TOTAL AMOUNT	**75,000,000**	**12,756,881**	**15,000,000**	**600,000**	

(e) Financial Reporting Arrangements

63. The project will be required to prepare and submit quarterly IUFRs to account for activities funded under this credit. The project accountants at the respective lead IA, that is, the EPA and the MLNR, are responsible for preparing and submitting acceptable quarterly IUFRs. Each agency will independently submit its own set of IUFRs documenting the use of project funds, also to be used as part of the supporting documentation of the DAs.

64. IUFRs for the project are expected to be submitted not later than 45 days after the end of each quarter. The financial reports will be designed to provide relevant and timely information to the project management, transfers to beneficiaries' agencies, and various stakeholders monitoring the project's performance. The formats, content, and frequency of reporting of the IUFRs have been agreed upon. These reports should clearly as a minimum include

(g) A statement of sources and uses of funds showing the use of funds by components according to the Project Appraisal Document (useful in monitoring implementation of the components);

(h) A statement of sources and uses of funds showing the expenditure by category according to the Financing Agreement (for documenting expenditure according to the Financing Agreement);

(i) A budget variance report comparing the utilization of approved budget against expenditure (useful to the task team leader to monitor implementation and fund utilization);

(j) A DA reconciliation statement;

(k) A list of payments (made in that quarter) made against contract subject to the World Bank's prior review;

(l) List of current commitments, that is, signed and ongoing contracts;

(m) A cash forecast for six months (to be the basis of requesting for additional funding); and

(n) Any other report that the World Bank may require to provide further and better particulars on project expenditure such as transfers to sub agencies, and so on.

65. In addition to the standard IUFRs, to document amounts disbursed as part of the performance-based payments under IDA Category 4, the EPA will provide additional supporting documentation including a list of beneficiaries and a formal letter from the EPA Executive Director confirming the amounts paid during each quarter.

(f) Auditing

66. In line with its mandate according to the Ghana Audit Service Act (Act 584), the Auditor General is solely responsible for the auditing of all funds under the Consolidated Fund and all public funds as received by government MDAs. Generally, the capacity of the GAS is assessed as satisfactory, and in recent years, it has been responsible for undertaking the audits of IDA-funded projects. The GAS will conduct the audit of the project's financial statements.

67. In line with the decision to have two separate IAs and DAs, each IA shall prepare and submit to the World Bank its own independent audited financial statements and management letter. As part of the financial covenants, these audits are due to be submitted by the Borrower, not later than six months after the year-end. Currently, both IAs are implementing the PPF, and the World Bank FMS will determine if there is the need for an audit or whether the first audit of the project shall include that of the use of PPF.

FM Supervision Plan

68. Based on the risk rating of the project and the current FM arrangements, it is expected, following effectiveness, that in the first year of implementation, there will be a minimum of two on-site visits to ascertain the adequacy of FM and country systems to determine how effective these are in supporting implementation. The FM implementation support mission will include ensuring that strong FM systems are maintained throughout the project tenure at the EPA PCU and the MLNR project unit. In adopting a risk-based approach to FM supervision, the key areas of focus will include assessing the accuracy and reasonableness of budgets, their predictability and budget execution, compliance with payment and fund disbursement arrangements, and the ability of the systems to generate reliable project-specific financial reports.

Procurement

(a) Preliminary Procurement Capacity Assessment Carried out in October 2020 of the PCU of EPA:

(i) **Accountability for procurement decisions.** MESTI's section responsible for the implementation of the GLRSSMP has a well-established structure for procurement decisions and is led by the minister and supported by the executive director of the EPA.

(ii) **Internal manuals.** The ministry has internal manuals based on previous projects including the SLWMP.

(iii) **Records keeping.** The project has a dedicated Procurement Unit headed by a procurement officer and an assistant. Records are kept in Arc files. The project can still improve the records because the files are scattered and generally unpaged.

(iv) **Staffing.** The project provided the names of two people who undertake procurement in the ministry. The ministry has furnished the World Bank with the curriculum vitae of two officers who have the basic knowledge of procurement including World Bank-funded projects but who still required further intensive training on the World Bank's New Procurement Framework (NPF).

(v) **Procurement planning.** This is assessed as fair.

(vi) **Bidding documents, short list reports, RFPs, and evaluation reports.** Samples were examined, and they are generally acceptable.

(vii) **Advertisement.** Good.

(viii) **Evaluation and award.** The EPA follows the procedures laid down for both prior- and post-review procurement.

(ix) **Review of procurement decisions and resolution of complaints.** The setup structures (head of entity, Entity Tender Committee, and the Central Tender Review Committees) undertake the necessary reviews based on the threshold.

(x) **Contract management.** Responses on contract management questions were not adequate.

(xi) **Procurement oversight.** Adequate structures are in place.

(xii) **Knowledge of the NPF.** The only procurement staff who has undergone training in the NPF needs continuous training in the NPF.

(b) Preliminary Procurement Capacity Assessment Carried out in October 2020 of the PCU of MLNR

(i) **Accountability for procurement decisions.** The MLNR's section responsible for the implementation of the GLRSSMP has a well-established structure for procurement decisions and is led by the minister and supported by the chief director.

(ii) **Internal manuals.** The ministry has internal manuals based on previous projects.

(iii) **Records keeping.** The project has a dedicated Procurement Unit headed by a procurement officer and an assistant. Records are kept in Arc files. The project can still improve the records because the files are scattered and generally unpaged.

(iv) **Staffing.** The project provided the names of two people who undertake procurement in the ministry. The ministry has furnished the World Bank with the curriculum vitae of two officers who have the basic knowledge of procurement including World Bank-funded projects but who still required further intensive training in the World Bank's NPF.

(v) **Procurement planning.** This is assessed as fair for now. The MLNR showed the World Bank team samples of their Procurement Plan and how they prepare them.

(vi) **Bidding documents, short list reports, RFPs, and evaluation reports.** Samples were examined, and they are generally acceptable.

(vii) **Advertisement.** Good.

(viii) **Evaluation and award.** The MLNR follow the procedures laid down for both prior- and post-review procurement.

(ix) **Review of procurement decisions and resolution of complaints.** The setup structures (head of entity, Entity Tender Committee, and the Central Tender Review Committees) undertake the necessary reviews based on the threshold.

(x) **Contract management.** Responses on contract management questions were not adequate.

(xi) **Procurement oversight.** Adequate structures are in place.

(xii) **Knowledge of the NPF.** The procurement staff who have undergone training in the NPF need continuous training in the NPF, but they are not adequately prepared to undertake procurement on their own under the NPF. Despite the risk, the mission recommended that they commence procurement activities for the first six months. There will be a follow-up mission to review and update the risk and performance rating.

69. **Conclusion for both EPA and MLNR.** Since the project will be implemented under the NPF and the procurement staff likely to implement are not familiar with the NPF, the following are recommended:

(a) An initial risk rating of Substantial

(b) Intensive customized training in the NPF.

70. **The Project Procurement Strategy for Development and the resulting Procurement Plan for the first 18 months** were prepared and cleared by the World Bank.

71. The applicable prior-review and market thresholds for both agencies are provided in Table 1.6.. These may change over time depending on the project risk rating.

Table 1.6. Thresholds for Procurement Approaches and Methods and Prior-review Thresholds

(Effective January 1, 2017)

	Prior-Review Thresholds (US$, thousands)				
			Consultants		Single Source and Direct Contract
Risk Rating	Works	Goods, IT Systems + Non-consulting Services	Firms	Individuals	
Substantial	≥10,000	≥2,000	≥1,000	≥300	≥100

	Procurement Method Thresholds (US$, thousands)							
	Works			Goods, IT, and Non-consulting Services			Short List of National Consultants	
Risk Rating	Open International or ICB	Open National or NCB	Request for Quotation/ National Shopping	Open International or ICB	Open National or NCB	Request for Quotation/ National Shopping	Consulting Services	Engineering and Construction Supervision
Substantial	≥15,000	<15,000	≤200	≥3,000	<3,000	≤100	<300	≤500

Note: ICB = International Competitive Bidding; IT = Information Technology; NCB = National Competitive Bidding.

M&E Implementation

72. **Monitoring plan.** The M&E function of the project will facilitate the achievement of several key objectives: (a) accountability toward achievement of the objectives; (b) identification of deficiencies to take corrective action on time; (c) transparency of the results and activities and outputs; and (d) learning in a broad sense based on the Theory of Change and the Results Framework.

73. The project Results Framework will guide day-to-day M&E, as well as evaluation analysis and reporting at midterm and completion. AAs part of the PIM, the PCU has developed the detailed M&E Plan emphasizing the collection mechanisms, processing, analysis, and dissemination of data on progress, effects, impacts, and lessons drawn from the project. The project will use an online-based geonode open-source spatial database to back up the M&E system. The system will allow the project implementers at all levels to upload vetted field data for additional analysis and visualization.

74. **Monitoring arrangements.** The PCUs will be in charge of developing and routinely updating the M&E Plan. Activities will be implemented by M&E specialists (government staff) and will be supported by

a dedicated M&E consultant based at the PCU. The M&E consultant will support the PCU to (a) ensure that data collection, analysis, presentation, and reporting follow quality standards and processes outlined in the PIM; (b) work in close collaboration with responsible implementing entities to implement and maintain appropriate M&E processes and reporting mechanisms; and (c) provide required training and backstopping on M&E to all project implementation levels. Project funding will be provided for capacity development on results monitoring.

75. Project monitoring and broader natural resource monitoring and impact assessment for the landscape restoration activities will be coordinated by the PCU at the EPA. TCOs will be responsible for M&E for their respective zones, with information provided by responsible implementing entities. A rigorous M&E system equipped with the geographic information system and other facilities for data collection, storage, and analysis will be established at the central level, enabling the project's progress toward the results to be measured and assessed. The project M&E system will utilize existing country systems as far as possible. For some indicators, data collection will entail field/household surveys, complemented by other observation tools, such as satellite observation. Technical support/guidance, as needed, will be secured during implementation. Given the prevailing COVID-19-related constraints that may limit effective on-the-ground access in some of the selected project areas, solutions in the field of remote sensing and geospatial analysis will be leveraged for M&E purposes when feasible.

76. **Data and reporting.** Baselines are set at zero, and the project will monitor the change attributable to project intervention over the implementation period and report it in the Results Framework. The Results Framework includes definitions, data sources, frequency of data collection, methodology, and institutional responsibilities. A GEF indicator equivalency table has been prepared and included in annex 4. Additional indicators beyond the project Results Framework and GEF core indicators will be monitored by the project and reported at the beginning, midterm, and project completion. The PA management effectiveness tracking tools (METT) for the relevant indicators and EX-ACT for GHG emissions estimation have been prepared for the project. A project midterm review and Implementation Completion and Results Report will be undertaken with consultants hired by the PCU. The M&E team will be overall responsible for reporting as part of the semiannual and annual reporting to the World Bank, GEF, and other relevant stakeholders, including its obligations under the FOLUR impact program and PROGREEN.

77. **Reporting on the PROGREEN indicators will be provided separately,** using data from the equivalent indicators in the project Results Framework, as in table 1.7.

Table 1.7. PROGREEN and Equivalent Indicators

PROGREEN Indicator	Equivalent Indicator in the Project Results Framework	EOP Target Attributable to PROGREEN
Pillar 1		
Area under sustainable forest management (ha)	Forested land area under sustainable forest management practices (hectares)	766,762
• Landscapes under integrated and innovative management (number) • Area under collaborative management (ha) • Landscapes with improved climate resilience (ha)(adaptation)	• Area under collaborative, integrated and innovative management and with improved climate resilience (CREMAs) (hectares) • [Area of the proposed five new CREMAs in the WWC]	676,794

PROGREEN Indicator	Equivalent Indicator in the Project Results Framework	EOP Target Attributable to PROGREEN
Share of land users adopting new practices in targeted landscapes (%) [land users in targeted 120 communities]	Land users adopting new practices in targeted landscapes (%)	50
Land area under restoration (ha) [includes areas under climate smart agriculture, rangelands, and riparian vegetation]	Land area under sustainable landscape management practices (hectares) *Area of rangelands (120 ha) will be tracked outside of the Results Framework.*	21,320
Pillar 2		
Women and youth with increased benefits from landscape-based value chains (number)	People in targeted areas with increased benefits as a result of the project (disaggregated by (1) SLM practices; (2) alternative livelihoods (Number); (3) female; and (iv) youth (number)	49,440 Women: 40% (19,776) Youth: 15% (7,416)
Farmers adopting agroecological agricultural practices (number)	Farmers adopting agroecological agricultural practices (number)	25,080
Countries with policy and institutional framework improved (number)	Reforms in forest policy, legislation, or other regulations supported (Yes / No)	Yes
Trees in production landscapes outside of forests (ha) [agroforestry interventions]	Trees in production landscapes outside of forests (ha) [agroforestry interventions]	3,000
Area under PES in production landscapes (ha)	Area under PES in production landscapes (ha)	5,000
Pillar 3		
Targeted landscapes where planning for mining incorporates nature-based solution to mitigate negative environmental impacts (number)	Targeted landscapes where planning for mining incorporates nature-based solution to mitigate negative environmental impacts (number)	5

78. **Budget for M&E.** The M&E Plan is fully budgeted at US$2.76 million (of which US$0.855 million from GEF; see details in GEF budget matrix) with financing from three sources of project funding. This budget covers various M&E activities, including monitoring and reporting on the Results Framework and updating of the GEF core indicators, and impact assessments.

79. **Impact evaluation** for the SLWM practices will be undertaken as part of the project (budgeted under Component 4).

ANNEX 2. Detailed Project Description

1. The proposed project will be implemented in the NSZ (which includes the Guinea Savannah and the Sudan Savannah ecological zones) and the cocoa forest landscape (which includes the Forest and Transitional ecological zones in the central-southern areas of the country). Project target areas include 13 sub-basins in the NSZ and Forest and Transition zones of Ghana (Table 2.1). It is important to note that, geographically, the GEF investments will support activities in the Pra River Basin only (in the Southern zone), and the PROGREEN investments will focus on the Western Wildlife Corridor Area (and specifically five administrative districts: Builsa South, Kassena-Nankana, Sissala East, Sissala West, and Wa East).

Table 2.1. Project Sub-Basins

Sub-basins in NSZ	Area (ha)	Sub-basins in Cocoa Forest Landscape	Area (ha)
Kulpawn	964,163	Afram	1,055,012
Nasia	536,043	Obosum	268,370
Red Volta	36,372	Pra	2,328,427
Sissili	530,217	Tano	871,063
White Volta	2,922,139	Volta Lake	120,505
Black Volta	1,496,768	Pru	821,987
		Sene	489,865

2. Activities at the district level will target 28 rural districts according to Table 2.2—the target districts were selected based on their location within biological corridors and land degradation and illegal mining pressures. Districts in the NSZ have been prioritized based on their potential to intensify successful impacts achieved under the ongoing SLWMP. Districts in the transitional forest zone have been prioritized based on feasibility of success based on results from ongoing initiatives. Specific intervention areas for implementation of the project activities within these districts will be selected using criteria developed during project preparation and included in the PIM. The target areas for capacity building of sustainable mining practices will be determined on the basis of baseline assessments and preparatory studies in the early stages of project implementation.

Table 2.2. Project Target Districts

Project Regions	Project Districts
Ashanti	1. Adansi South (Pra River Basin)
	2. Asante Akim South (Pra River Basin)
	3. Atwima Mponua (Tano River Basin)
	4. Bosome Freho (Pra River Basin)
	5. Juaben Municipal (Pra River Basin)
	6. Sekyere Afram Plains North (Afram River Basin)
Bono East	7. Sene West (Sene River Basin)
Central	8. Assin North (Pra River Basin)
	9. Twifo Ati Morkwa (Pra River Basin)

Project Regions	Project Districts
Eastern	10. East Akim (Pra River Basin) (ASM)
	11. Kwahu Afram Plains North (Afram River Basin)
	12. Kwahu South (Pra River Basin)
	13. Kwahu East (Pra River Basin)
	14. Kwahu West (Pra River Basin)
	15. Kwahu Afram Plains South (Obosum River Basin/Afram River Basin)
North East	16. Mamprugu Moagduri (Nasia River Basin)
	17. West Mamprusi (Nasia River Basin)
Savannah	18. Sawla-Tuna-Kalba (Black Volta River Basin)
	19. West Gonja (Black Volta River Basin)
Upper East	20. Builsa South (Sisili River Basin)
	21. Bawku West (Red Volta River Basin)
	22. Kassena-Nankana (Sisili River Basin)
	23. Talensi (Red Volta River Basin)
Upper West	24. Daffiama-Bussie-Issa (Kulpawn River Basin)
	25. Sissala East (Sisili River Basin)
	26. Sissala West (Kulpawn River Basin)
	27. Wa East (Kulpawn River Basin)
Western	28. Prestea-Huni Valley (Pra River Basin) (ASM)

Note: The project will also support SSM activities in select municipalities in key mining areas.

3. The component structure follows the planning and implementation of interventions (policy and investments) with a view to improve landscape management. Component 1 focuses on planning aspects relevant to landscapes. Component 2 focuses on policy dimensions of ASM with positive impacts for managing cross-cutting challenges across ASM/forestry/agriculture landscapes. Component 3 will support on-the-ground investments in agriculture, mining, and forest landscapes to reduce land fragmentation and optimize land use for the sustainability of livelihoods and advancing ILM. Diverse incentive mechanisms linked to SLWM adoption on agriculture, forest, and mining will be supported to encourage behavioral change toward more sustainable practices.

4. **The project will support a community-led integrated landscape approach to improve the management of forest and savannah ecosystems in the target areas and enhance the resilience of ecosystems and populations dependent on them.** The interrelationship among agriculture, biodiversity (including wildlife) conservation, mining, and forestry calls for a holistic integrated landscape approach to provide ecosystem services. Smallholder farmers' access to finance also needs to be improved and critical supply chain bottlenecks need to be removed in the value chains by focusing on improved storage and post-storage processing for farm and tree crops (cocoa, shea, and cashew), together with other income diversification opportunities. Efforts to formalize and train small-scale miners in environmentally smart mining as part of the landscape-wide management approach will contribute to a sustainable rural economy as well as mitigate the current adverse environmental footprint. This will require strong multi-sectoral coordination at both the national and decentralized levels. The project will support the inclusion of additional agencies under MESTI, MoFA, and MLNR, such as COCOBOD, MC, Water Resources

Commission, and Tree Crops Management Authority, to proactively engage in finding integrated solutions to landscape management.

5. **The GoG has requested broader engagement and support from the World Bank in addressing ASM sectoral issues in the targeted landscapes.** The proposed project will support, in a phased approach, a sequence of sector reform initiatives, including (a) regulatory reform and formalization of ASM and (b) strengthening the Government's capacity for support and monitoring of ASM operations. These activities are expected to take 18–24 months. Subsequently, the project aims to support (a) piloting rehabilitation on a limited number of mined-out sites (according to lessons learned from the ongoing FIP) and (b) promoting responsible entrepreneurship for ASM development, including diversified local economic development. However, addressing the full scope of ASM issues will require mobilizing additional resources on a much grander scale, both from Ghana's own budget and from external partners and sources, which is beyond the scope of this project.

Component 1. Institutional Strengthening for Participatory Landscape Management[61] (US$14.21 million, including IDA US$10.66 million, GEF US$2.51 million, PROGREEN US$1.04 million)

6. The component aims to strengthen the planning and policy framework by carrying out spatial planning and implementation, policy support, and capacity building, working with administrative and technical agencies located within the regions and districts that are within the 13 target sub-basins in the project area. Support is included for ILM planning that accounts for multi-sectoral uses and also plans for adaptation measures to address climate risks and fostering partnerships to support the adoption of sustainable landscape management approaches at scale within project areas. This component will also enhance multipurpose land and water management models at the national level through the acquisition of remote sensing data and geological surveys which will allow the production of updated maps with additional layers of information. It will also support the development of spatial planning tools for mapping, including consistent remote monitoring over time, and monitoring impacts and effective monitoring of sustainable cocoa production.

Subcomponent 1.1: Integrated landscape management planning (US$6.11 million, including US$3.28 million from IDA, US$2.30 million from GEF, and US$0.53 million from PROGREEN)

7. This subcomponent will support integrated landscape planning in 13 sub-basins (Table 2.1.) to improve the management of natural resources and land use, including for enhanced food security. The subcomponent will include the following activities: (a) supporting subnational[62] multi-stakeholder coordination platforms on land-use planning by bringing in the existing Basin Management Board of the various basins where the project is operating; (b) developing spatial planning tools; and (c) developing and facilitating integrated land-use plans. The development of these plans is critical for ensuring that land resources are used and managed in a way that enhances absorptive and adaptive capacity to climate change, promoting resilience broadly at the landscape level.

[61] Institutional strengthening of governance and partnerships includes key agencies and stakeholders that are relevant to integrated landscape management and overall delivery of the PDO.
[62] Subnational levels include regional and district levels.

8. It will also support the development of spatial planning tools for mapping analysis and monitoring impacts. These tools could include Forest, Cocoa and ASM Monitoring Systems,[63] tree registration/counting/carbon accounting system, relevant databases and maps, participatory mapping tools, and so on. The objective of developing these tools is to help inform decision-makers on what is happening in the landscape so that they can make more effective decisions on planning and monitor the land-use plans to help ensure enforcement and manage the risks of competitive/illegal land uses that threaten food security and habitat fragmentation. An important element of capacity building for the responsible government agencies will be assured under this activity, for sustainability of results and systems.

9. It will also support effective monitoring of sustainable cocoa production through the use of this improved Forest Monitoring System to ensure compliance with the cocoa standards; this will include training of the COCOBOD and FC staff as well as decision-makers. This activity will help ensure that the footprint of forest loss and degradation due to cocoa development is being reduced and adequately monitored. This will address an existing need to harmonize efforts by diverse partners operating in the landscape and monitor compliance with agreed standards of sustainable cocoa production.

Subcomponent 1.2: Enabling environment for restoration activities, sustainable production, and value chains within the landscape (US$1.52 million, including US$0.80 million from IDA, US$0.21 million from GEF, and US$0.51 million from PROGREEN)

10. This subcomponent will strengthen the enabling environment for innovative measures in sustainable production (including adaptation measures to address climate risk) and value chains and scale up restoration activities to support resilient landscapes and livelihoods. The subcomponent will include the following activities: (a) supporting relevant policy measures and incentives, including research on land restoration/land conservation and update of guidelines on micro-watershed management and planning; (b) supporting advancement of relevant guidelines, manuals, and standards; and (c) supporting/establishing partnerships for multi-sectoral and integrated land-use action planning.

Subcomponent 1.3. Airborne geo-physics and geological surveys (US$6.58 million, all IDA)

11. As part of the Government's effort to improve the understanding of the national geology and subsoil resources, this subcomponent will support geological investigations to analyze geomorphological trends, mineral occurrences, and interlinkages between different land and resources uses. These investigations will inform the trade-offs between competing land uses as well as the feasibility of land restoration. Moreover, investigations will also identify economically viable mineral reservation areas for small-scale miners. Currently, about 150 areas covering 5,400 km^2 have been designated for ASM. However, there is the need to conduct a detailed investigation to ensure the areas are viable and that environmental impacts are manageable before licensing to prospective applicants. Currently, only nine of these areas have been explored, and those that proved positive were demarcated to small-scale miners. A minimum of 1,000 km^2 of land will be prospected geologically over the period of the project. This activity would be a key criterion for reducing the degradation of land by informal miners and thus contributing to climate change mitigation potential of the project. Identification and allocation of lands suitable for SSM

[63] Under the REDD+ project, the RMSC was supported to set up a Forest Monitoring System. The proposed project intends to continue supporting this system by expanding monitoring to different land uses such as the cocoa forest landscapes, other major commodities (such as shea butter and bamboo), and ASM sites.

will steer clear of forested lands with high-carbon value and will thus help prevent deforestation and eventually result in mitigation benefits owing to avoided deforestation. Climate impacts will be fully considered to ensure the durability of the intervention.

Component 2. Enhanced Governance in Support of Sustainable ASM (US$17.48 million, including US$16.88 million IDA and US$0.60 million EGPS)

12. This component aims to strengthen the regulatory framework for ASM, with a focus on modernizing regulatory instruments and building the capacity of key government agencies involved in ASM regulation and compliance monitoring (most prominently MC, FC, and EPA) as well as district management committees. It will also support ASM formalization through (a) registering SSM licenses; (b) streamlining ASM administration; and (c) enhancing district capacity to manage ASM. Once the updated regulatory framework has been established, this component will also invest in improving the capacity of ASM operators, by providing training on sustainable and forest-smart mining techniques and enterprise skills, supporting establishment of cooperatives, and promoting market links to help ASM gold miners obtain better value for their output. In tandem with EGPS support to core areas of national EITI implementation, this component will also support the inclusion of ASM under Ghana EITI to advance sector formalization. Activities will finance stakeholder consultations and awareness raising on mainstreaming ASM into the EITI framework as well as the development of ASM sector assessments and guidelines as part of EITI reporting. Activities will also support IT system upgrades to address vulnerabilities in ASM revenue collection, enhance fiscal compliance, and strengthen alignment with EITI accountability requirements. Improvements in governance, capacity, and skills supports under this component will directly contribute to climate change mitigation response of the project.

Subcomponent 2.1. Regulatory strengthening and formalization of ASM (US$8.92 million, including IDA US$8.32 million and EGPS US$0.60 million)

13. The objective of this activity is to support the design and rollout of a robust mining operations' monitoring and inspection system. It will consist of three sub-objectives: (a) assess and develop the regulatory framework and guidelines governing E&S compliance and control mechanisms; (b) develop standard report templates and support selective inspections of ASM operations in accordance with regulations; and (c) establish mechanisms and tools for monitoring ASM operations through a database management system which will facilitate standardized and systematic control and reporting of operations.

14. The activity will also provide capacity building to officers in the FC, the EPA, and the MC in the monitoring and management of E&S impacts from ASM. These topics will include (a) water management; (b) management of hazardous products and waste; (c) community consultation; (d) health and safety; and (e) mine rehabilitation. The activity will strengthen institutional partnerships, coordination, and data development around ASM's forest impacts and encourage forest protection and restoration, particularly at the licensing and decommissioning stages.

15. The subcomponent will also support community outreach, public education, and awareness creation on the revised ASM regulatory framework to foster understanding and full compliance with sector guidelines. Activities will also aim to promote broad stakeholder consultations in the drafting of legal and regulatory instruments required for ASM formalization and modernization. To complement the development of strong environmental impact legislation, policy dialogues will also engage stakeholders

on community-centered forest risk mitigation incentives. This will help strengthen resource and environmental governance in the ASM sector.

16. The subcomponent will finance modernization of the licensing system to allow registration of SSM license holders as well as inclusion of a new medium-scale license category. An important objective under this subcomponent will be to facilitate women's access to mineral licenses to promote female entrepreneurship in ASM, as restrictions in access to land for mining have been raised as a specific concern during project consultations. To achieve this, technical solutions must be developed to enable decentralized registration at the regional and district offices. This will require the acquisition of both software and hardware as well as training of MC officials and the DMCs. One objective will be to promote female entrepreneurship and facilitate women's access to mineral licenses. The project activities to register informal miners will also designate mining activities within specific land areas. This formalization will contribute to better enforcement of protected forest arears and enhanced riverbank protection as well as mitigate forest degradation. The FC and EPA will be equipped with digital monitoring and reporting systems. Regulation and training on water and effluent discharge management will enhance adaptive capacity of ecosystems and communities.

17. As part of the efforts to strengthen sector formalization, this subcomponent will finance stakeholder dialogues on mainstreaming ASM into the EITI framework, as a follow-up to work undertaken in the preliminary Scoping Study on the Incorporation of ASM in Ghana EITI (2015). The activity will lay the groundwork for the design of a mainstreaming road map and implementation strategy at the national and subnational level. Key areas of collaboration will include developing ASM reporting guidelines and templates, tightening public disclosure requirements under the Minerals and Mining Act, and strengthening accessibility of ASM data through upgrades to the mining cadaster.

18. Outputs will include revised legal and regulatory instruments to reflect the changing nature of the ASM industry in Ghana. It is also anticipated to develop a modernized mineral cadaster system to register all types of mineral licenses from small-scale to large-scale operators, including geographic information system-based software to project and locate license holders.

Subcomponent 2.2. Training and technology transfer (US$5.68 million, all IDA).

19. The objective of this subcomponent is to build local-level capacity in sustainable ASM techniques and sector oversight management. This will incorporate capacity-building support to ASM operators as well as district mining officers of the MC, EPA district officers, and members of the DSMCs to enable them to discharge their duties effectively and efficiently. Training of ASM operators will include aspects of climate-smart and forest-smart mining, such as reduction and management of mine waste, reduced clearance of vegetation, post-mining restoration of degraded land, and capacity building of the small-scale miners on natural/climate risk and disaster response. This is expected to also mitigate erosion and improve streamflow management around abandoned mine sites. Resulting revegetation will also have climate mitigation benefits. The project will prioritize skills development and support to women, the youth, and other vulnerable groups. This will help them start and operate businesses that create value along and outside of the ASM value chain.

20. The subcomponent will aim to promote sustainable and well-managed ASM operations, focusing on improved operational procedures and practical application of global best practices. The subcomponent will support establishing an ASM business support center (Incubation Center) to provide advisory, training,

and technical services for ASM business as well as the establishment of a pilot center of excellence (Mining Demonstration Center) demonstrating best practice ASM processes. The scope of services envisaged under this subcomponent will include (a) mercury-free processing; (b) training on enterprise skills and forming business entities; (c) regulatory compliance; (d) environmental management and mine rehabilitation; (e) technology transfer; (f) health and safety; and (g) social responsibility. The Demonstration Center will facilitate continuous capacity building for ASM operators, mining engineers, and extension service agents, among others. Activities through the Demonstration Center will prioritize the practical demonstration of sustainable and environmentally friendly mining practices (managed in a way that minimizes the environmental and climate footprint) such as mercury-free gold extraction and the adoption of safe and appropriate local technologies. The subcomponent will additionally include limited production and deployment of improved and affordable mercury retorts (colloquially called *Sika Bukyia*) in ASM gold extraction and processing for improved gold recovery.

Subcomponent 2.3. Traceability of ASM production and value addition (US$2.88 million, all IDA)

21. This subcomponent will aim to establish multi-stakeholder partnerships to strengthen ASM supply chains and improve market access to ASMs for greater value creation. The project will also invest in strengthening traceability of ASM output as a means to increase profit retention and enhance benefit-sharing of the value created. The PMMC will acquire additional assaying equipment to meet the expected increase in demand for testing and assaying. This equipment will encompass X-ray machines for analysis of the mineral composition as well as fire assay equipment, precision scales, and associated software. It is also envisioned that software applications will be developed for online tracking of sales and transfers between registered miners, traders, and buying centers to trace products from source of origin to end destination.

22. An elaborate outreach and training campaign will be supported to inform and educate ASM operators about the trading patterns and registration procedures for producers and merchants. It is also envisioned that clusters and cooperatives of miners will be developed; these will require training to simplify ASM operators' access to the trading networks. The activity will improve awareness of the forest impacts associated with ASM supply chains and support strategies to minimize forest risks in ASM production, supply chain, and market standards and mechanisms. The project will reduce the demand for fuelwood because it will incentivize artisanal and small-scale miners to switch amalgamation and mineral processing to formal processing centers which are more energy efficient. This will replace home-based amalgamation using fuelwood to more efficient technology used by the PMMC.

Component 3: Sustainable Crop and Forest Landscape Management (US$60.28 million; including IDA US$38.26 million, GEF US$9.14 million, PROGREEN US$12.88 million)

23. This component aims to link improved food production and ecological integrity through investments in production and forest landscapes through the promotion of climate-smart agriculture, conservation, and restoration activities. Activities are aligned with the FOLUR and PROGREEN frameworks to promote sustainable food systems and agriculture value chains.

24. This component will support sustainable practices in production landscapes for key food crops; value chains for key commodity crops, including cocoa, shea nut, and cashew; value addition for food crops; sustainable water and land management interventions, including silvo-pastoral and riparian vegetation establishment activities income generation and income diversification at the community level

with a view to integrated natural resource management in target cocoa, savannah, and forest transition zone landscape; and regular monitoring of these interventions. It will also support investments into forested landscapes within PAs and their buffer zones, both to improve effectiveness of their management and to enhance ecotourism opportunities therein; improved management of FRs and their buffer zones, including reforestation, regeneration, and wildfire management; support to community-driven forest conservation in off-reserve areas within the biological corridors, including under the CREMA arrangements; and support to sustainable livelihoods of target communities that would reduce consumptive pressures on forests and hence reduce emissions from deforestation and forest degradation. In view of the growing significance of mining as a driver of forest loss and impacts of mining on waterways, the component will also support appropriate forest landscape restoration opportunities and reclamation of mined-out areas as well as provide alternative livelihoods support to miners to help them create sources of income to replace mining.

25. Investments under this component are expected to result in improvements of carbon pools and enhanced resilience of target landscapes. SLWM investments, especially in the NSZ, will help address water scarcity issues and reduce water stress, to address the risks of climate change-induced droughts. Scaling up the interventions within production and forest landscapes is based on the lessons learned from the SLWMP (in the NSZ) and ongoing work in the FIP (in the cocoa forest landscape).

26. In the production landscapes (SLWM), the GEF investments will focus on sustainable cocoa management and production in the cocoa forest landscape (specifically the Pra River Basin in the Moist Semi-deciduous Forest ecological zone); PROGREEN will finance interventions with the focus on cashew value chains within the Western Wildlife Corridor in the Savannah zone.

27. In the forested landscapes, the GEF investments will focus on support to the FR activities and community (CREMA) management of the wildlife corridors in the cocoa forest landscape; PROGREEN will finance investments in the identified target FRs and community (CREMA) management of the wildlife corridors in the Western Wildlife Corridor (especially CREMA sites 3, 4, 5, 6, and 7, where CREMA structures' establishment will be supported by the project).

Subcomponent 3.1: Planning, capacity, and implementation of SLWM in target micro-watersheds (US$30.38 million, including US$16.53 million from IDA, US$6.83 million from GEF, and US$7.02 million from PROGREEN)

28. This subcomponent will invest in creating capacities of districts and rural communities for sustainable micro-watershed and land-use planning aimed at achieving better management of natural resources, sustainable food production practices (including such cash crops as cocoa and cashew), and in the implementation of SLWM and sustainable food production practices. The project will support development of participatory community watershed management plans in up to 582 communities (each such plan covers a micro-watershed of approximately 2,000–3,000 ha). These communities will be selected based on the following criteria: (a) level of land degradation; (b) no litigation in community; (c) for cocoa - cocoa degradation issues/moribund farms; (d) communities with rivers that are tributaries of the main river systems; (e) community-level commitment toward adoption of SLM; (f) experience with other projects; and (g) existence of organized groups. Some of the best-performing communities currently supported under the SLWMP will be retained for support under the GLRSSMP, based on required materials, equipment, and trainings that will be provided to extension teams on the ground from the District Departments of Agriculture and COCOBOD (the latter will specifically target improved cocoa

management systems. COCOBOD will support engagements with cocoa community-based organizations, lead cocoa facilitators, and cocoa farmers).

29. This subcomponent will strengthen extension and service provision network for scaling up SLWM and sustainable cocoa technologies and facilitate and coordinate training programs for extension service providers of the IAs (largely MoFA and COCOBOD) based on their training needs. Training will be provided on climate-smart agriculture, good agronomic practices, micro-watershed management, fire management, pest and disease management, and so on. Responsible staff will be provided with logistics support (transportation) and required training materials (such as extension manuals). Establishment of demonstration plots and peer exchanges will also be supported.

30. It will also provide investments for the implementation of SLWM activities on the ground in agricultural landscapes. The subcomponent will support sub-projects for improved food production for smallholder farmer groups, targeting different crop types and agroforestry intercropping, to help diversify income streams of the farmers and to contribute to their food security. In addition, the project will support the implementation of community-level sub-projects. Specific activities will depend on the identified community needs but will fall under the following categories: (a) silvo-pastoral activities will support farmer-managed natural regeneration (FMNR) and establishment of woodlots; (b) establishment and management of rangelands; (c) restoration of riparian vegetation; and (d) water management investments, such as weirs and dugouts. SLWM investments will contribute to climate change adaptation, through enhancing food security of participating communities and also contribute to climate change mitigation, through improving soil health and increasing soil and vegetation carbon sinks. The project will provide required inputs to the identified farmers and communities in kind, not in cash; these will be procured by the PCU.

31. The subcomponent will invest in improvements in cocoa production through a multi-pronged approach in the target landscape. These investments will support introduction of improved (heat-tolerant, drought-tolerant, and disease-resistant) planting materials, replacement of old trees and improving of soil fertility (through replanting of up to 2,000 ha of moribund cocoa farms affected by the swollen shoot disease),[64] and integrated pest management and cocoa spraying, in addition to diversification of crops through support to sub-projects as described earlier. This comprehensive support aims to enhance productivity of the cocoa farms and increase economic benefits for the farmers.

Box 2.1. SLWM sub-projects

Sub-projects will be implemented by communities or farmer groups within these communities, in accordance with the sub-project proposals prepared by them, consistent with the key principles of the community watershed management plans. The sub-project proposals will be reviewed from the technical and E&S points and, once approved, simple sub-project agreements will be signed by the District Departments of Agriculture with respective communities or farmer groups. Based on these, the project will procure and supply required inputs for implementation of the sub-projects. The project will also support required extension and monitoring for all sub-projects. Grants / cash would not be paid out to beneficiaries, but rather goods/agricultural inputs.

[64] The districts selected are New Edubiase, Juaso, Nyinahin, Twifo Praso, Assin Fosu, and Nkawkaw. Selection of farmers for project support will follow these criteria: (a) the age of the farm is over 30 years, (b) the farm is not infected with Cocoa Swollen Shoot Virus Disease (CSSVD), and (c) the farmer is willing to assist in the establishment and maintenance of the farm.

32. On average, 22 communities per district will be targeted for investments under this subcomponent, to a total of up to 582 communities.

Subcomponent 3.2: Value addition, market access, and income diversification (US6.50 million, including US$3.83 million from IDA, US$1.30 million from GEF, and US$1.37 million from PROGREEN)

33. This subcomponent will support the provision of small post-harvest structures, improve market access, and promote value addition of selected cash crop commodities (cocoa [in the Transition zone] and cashew and shea [in the savannah zone]) which have been identified as priority commodities for the project; other commodities may be identified and added later on. The objective of this activity is to provide farmers with the necessary quality and leverage to compete in markets and further improve their livelihoods. This activity will aim to improve marketability and quality of the products through the provision of training that is tailored to existing supply chains and market buyers. In addition, to help professionalize farmer associations, the project will support the conversion of associations into formal cooperatives to improve their access to larger markets, where possible, mostly for cocoa and cashew. In this context, the activities will be conducted through COCOBOD and its association with the CFI. Improvements in value chains will have both climate change mitigation and adaptation benefits, as the production systems will be adapted to changing climatic conditions while improvements in processing will reduce wastage of natural resources.

34. It will also promote gender-inclusive alternative livelihoods by investing in the implementation of natural resources-based livelihoods activities to reduce pressures on the forests and to create income-earning opportunities besides the farming activities, with a specific focus on supporting women's groups/associations to ensure women's equal participation in economic activities and access to markets. The project support will ensure that products readily available to the communities can be used for value addition, such as baobab leaves' processing, beekeeping, soap making, dairy processing, snail rearing, poultry and rabbit rearing, groundnut processing (oil and paste production), production of bamboo handicrafts, and so on, to enhance community livelihoods and food security. The project will provide inputs required for activities (such as processing equipment) and required technical assistance and training, to ensure adequate quality for market access. The project support will give special consideration to gender-sensitive issues that could impede women's abilities to participate effectively in economic activities and devise ways to overcome these issues.

35. In addition, up to 50 communities will be trained on and supported in the establishment of VSLAs. The groups will be trained on the basics of FM, such as bookkeeping, and will be provided with VSLA savings boxes and other required equipment.

36. This subcomponent will also support the provision of performance-based payments to farmers electing to participate in the scheme through establishing tree cover in the catchment areas. Because of limited agricultural revenue during the tree maturity period and a lack of access to seedlings, farmers are unable to easily transition into tree farming. As part of the inputs (Subcomponent 3.1), the project will provide mango and other tree seedlings of importance to farmers to augment their current land uses: agricultural production of maize, groundnut, and rice. Contingent on 75 percent of trees surviving after one year (based on field verification), the project will pay performance-based cash incentives to participating farmers. This approach was already piloted under the SLWMP and has proven to be a successful incentive to promoting tree cover in agricultural production landscapes.

Box 2.2. Performance-based payments

- Individual farmers (from the original sub-project groups that receive sub-project support) may choose to participate in the performance-based payments (payment for environmental services) scheme, showing their commitment to maintain the trees/SLWM practices. The selection will follow due process described in the PIM; the farmers need to volunteer as participation requires a commitment to maintain the established 40 trees on each lot.
- Once selected, the farmer would sign a commitment form with the project (using a template included in the PIM).
- There will be two visits by a third-party independent field verification team (a sub-committee of the NSLMC) to verify if the required trees have been maintained. This verification team would cross-check recorded performance under PES commitments, based on a sampling approach, undertake spot checks of individual sub-project plots, and evaluate whether the intended objectives of the sub-projects are being achieved.
- If the agreed practice has been maintained adequately, the amount of the PES payment due would be paid in two installments through the farmer's bank account or through mobile money payment.
- The first installment would be paid after six months in the amount of one-third of the agreed payment, if at least 75 percent of the trees (30 trees) have been maintained; the second installment of the remaining two-thirds of the commitment will be made after one year, if at least 75 percent of the trees (30 trees) have been maintained. If only 15–29 trees survive after one year, the second payment will be equal to only one-third of the total payment.

Subcomponent 3.3: Forest management planning and investments in and around FRs (US$7.85 million, including US$4.88 million from IDA, US$1.01 million from GEF, and US$1.96 million from PROGREEN)

37. The subcomponent will aim to secure the integrity of forest areas to ensure sustainable forest management. It will contribute to augmenting the supply of important native species within the target forest ecosystems while also creating incentives and employment opportunities and markets for native tree seed stock as well as for communities and farmers to engage in the planting and preservation of native tree species, rather than encroachment into forests. This subcomponent will include the following activities:

(a) Improved management of 22 target FRs (11 in the NSZ and 11 in the cocoa forest landscape), including the development of forest management plans (FMPs) where needed and the implementation of priority forest protection and restoration activities, based on the developed FMPs. Such activities will include enrichment planting (over 2,300 ha in total), establishment of nurseries for indigenous tree species, fire prevention and awareness activities, and equipping of FC field teams for effective protection and monitoring of FRs.

(b) Engagement with admitted settlements and farm owners[65] to limit their farm expansion, based on the developed FMPs and reserve settlements commissioner's report (referred to in the FMPs). This will include (i) sensitization and awareness creation on forest protection and management of admitted farms, admitted settlements, and forest fringe communities; (ii) consultations with admitted farm owners and registering and documenting ownership and boundaries of admitted farms; (iii) establishment of admitted farm and admitted

[65] This activity will be undertaken in FRs in the Cocoa Forest Landscape, as FRs in the Savannah zone have no admitted farms/settlements.

settlements boundaries through surveying, mapping, and replacing missing, broken, and defaced FR boundary pillars; and (iv) carrying out, through community engagement, of planting of FR boundaries and buffer zones, including through the use of the Mixed Taungya System.

(c) Support to livelihoods activities in buffer communities, channeled through (reconstituted and revived) Community Forest Committees[66] in collaboration with District Assemblies. The project will support, as required, the establishment and reconstitution of the Community Forest Committees and provision of livelihoods support (for example, woodlots, beekeeping, and poultry rearing, in accordance with the pre-identified list of livelihoods options) to these buffer communities to reduce pressures on PAs and enhance protection of the forest resource.

Subcomponent 3.4: Management of wildlife PAs and biological corridors (US$7.51 million, including US$4.98 million from IDA and US$2.53 million from PROGREEN)

38. This subcomponent will invest in target wildlife PAs and biological corridor areas to strengthen their on-the-ground management, develop ecotourism opportunities in selected wildlife PAs, engage communities in the management of these areas, and support their ability to benefit from the sustainable management of forest and wildlife resources through the devolution of management rights under the CREMA arrangement and support to natural resources-based livelihoods.

39. Activities under this subcomponent will be implemented in Gbele Resource Reserve, Mole NP, and Digya NP and fringe communities around these PAs, and fringe communities around Kogyae Strict Nature Reserve, as well in the CREMA areas in target wildlife corridors (Western Wildlife Corridor, Digya-Kogyae Wildlife Corridor, and Eastern Wildlife Corridor). Support under this subcomponent will contribute to the creation of a contiguous management zone of the forests between PAs.

40. Activities within PAs will include (a) preparation of management plans[67] through a stakeholder process; (b) boundary maintenance; (c) provision of field equipment and basic infrastructure to support park monitoring (this would include construction of tracks and trails and satellite camps for rangers); (d) habitat enhancement activities (such as construction of dugouts/water points for animals and fire management activities); (e) human-wildlife conflict management; (f) research (including equipping and operation of a field research center at Mole NP); (g) operation of the management information system and tracking for flora and fauna monitoring; (h) conservation education and public awareness in and around PAs—targeting communities and existing practices that affect the PAs (hunting, illegal extraction of wood, and so on); and (i) infrastructure investments in fringe communities to reduce their reliance on PAs, such as community dugouts around Gbele Resource Reserve (in three identified communities) and

[66] The concept of Community Forest Committees emanates from the principles of collaborative forest management defined as "partnership in sustainable renewable natural resource management and development to ensure equitable sharing of rights and responsibilities and benefits to improve livelihood of all segments of society" and the Forest and Wildlife Policy of 1994 (updated in 20212) which seeks to ensure the conservation and sustainable development of nations forest and wildlife resources for maintenance of environmental quality and perpetual flow of optimum benefits to all segments of society. Community Forest Committees are typically present in fringe communities of FRs, are self-elected community representative groups, and typically include representatives of major or primary identifiable groups or stakeholders within the community, ranging from seven, nine, or eleven persons.

[67] Mole NP and Digya NP do not have current management plans (latest management plans for these areas date back to 2006 and 1994, respectively). The management plan of Gbele Resource Reserve will expire in 2023.

shea nut drying facilities for women groups. In areas with ecotourism potential around Mole NP, the project will support undertaking of feasibility studies and invest in development of ecotourism opportunities by building basic park tourism infrastructure (such as entrance posts, picnic sites, and bird hides).

41. In addition, this subcomponent will support engagements with admitted settlements and farm owners in Digya NP, based on the developed FMP and reserve settlements commissioner's report (referred to in the FMP). This activity will include the same actions and follow the same protocols as the engagement with admitted farmers and settlements by FSD under Subcomponent 3.3.

42. This subcomponent also includes collaborative resource management around target PAs and in the biological corridors, working through a CREMA model. The project will support the establishment of and investments in priority activities identified in CREMA management plans/action plans in approximately 24 CREMAs for improved corridor management within the targeted areas of the project. This will include eleven CREMAs (six already established under the SLWMP and five new) in the Western Wildlife Corridor, three in the Eastern Wildlife Corridor, three in the Gbele Resource Reserve fringe communities, two in the Mole NP fringe communities, two in the Digya NP fringe communities, two in the Digya-Kogyae Wildlife Corridor, and one at Lake Bosomtwe (in the Pra River Basin). Identification of specific CREMAs and their boundaries will be informed by the feasibility studies.

Subcomponent 3.5: Reclamation of mined out sites and alternative livelihoods (US$8.04 million, all from IDA)

43. The subcomponent aims to promote reclamation and rehabilitation of mined-out areas and prevention of forest loss due to mining. Activities will include mapping, prioritization, and characterization of mining degradation in the targeted areas of the project and site sampling and assessment of potential clean-up approaches and techniques, which will inform site-specific rehabilitation plans. Monitoring of ASM activities through the improved Forest Monitoring System that will be enhanced under Component 1 will also support this activity.

44. Under this subcomponent, the project will also set up demonstration sites of appropriate rehabilitation approaches for a small number of selected abandoned mine sites as part of the ILM plans and FMPs, with a total area of approximately 2,000 ha. These activities will be closely coordinated with parallel activities under the FIP. The objective of the activity would be to create awareness of rehabilitation and economic potentials of abandoned mine sites among relevant stakeholders and promote adoption of these practices. For reclamation (of up to 2,000 ha), the major engineering works required for the reclamation will include the following: (a) soil tests; (b) cutting and haulage of fill materials to top up to the required ground elevations; (c) earthworks which will involve spreading of stockpile of sandy/laterite waste rock into pits; (d) spreading of topsoil; (e) raising of cover crops; (f) tree planting (phytoremediation); (g) field maintenance; and (h) M&E. Priority areas have been identified in the Prestea-Huni-Valley district (Western Region) and in the mining areas around Kyebi in the East Akim district (Eastern Region). Local communities will be involved as workforce to the greatest extent possible to provide revenues and included in decision-making to create ownership and sustainability of the initiative. Land rehabilitation is expected to improve soil health and restore forested land.

45. Importantly, the project will promote alternative livelihoods to mining, to boost income generation and income diversification in the mining communities. The project will support baseline

studies to tailor support to existing demand and design and deliver skills-based training, to enable a comprehensive livelihoods strategy. These alternative livelihoods activities will focus on climate-resilient and sustainable alternative livelihoods that will prioritize efficiency of resource use and waste reduction.

Component 4: Project Monitoring and Knowledge Management (US$11.39 million, including US$9.20 million from IDA, US$1.11 million from GEF, US$1.08 million from PROGREEN)

46. The costs allocated to Component 4 include PPF received by the MLNR from IDA (US$3 million) to support project preparation activities to help project readiness for project management.

47. This component aims to support robust project management and monitoring (including financial, internal audit and procurement management, M&E, E&S risk management, supervision, implementation and monitoring of the GRM, monitoring implementation of the Gender Action Plan, and so on), better communication outreach and dissemination, appropriate stakeholder engagement, and adequate knowledge management. This component will have two subcomponents, each led by a respective PCU, at the EPA and the MLNR.

Subcomponent 4.1. Project Monitoring and Knowledge Management (EPA PCU) (US$5.39 million; IDA US$3.20 million; GEF US$1.11 million, PROGREEN US$1.08 million)

48. This subcomponent, led by the EPA, will finance technical and operational assistance for day-to-day management and implementation of the project. Specific activities will include the following:

(a) Project management and monitoring by the PCU, including services of two technical officers; capacity building for the project management team in fiduciary aspects; cost of field supervision, including by the fiduciary teams; cost of internal and external audit; purchase and maintenance of office equipment and logistics; monitoring; incremental operating costs; and costs related to meetings and field supervision of the PMP and the PSC. Costs of annual review and planning meetings as well as project midterm and completion reports will be also included here.

(b) E&S risk management and monitoring, including costs of training and awareness creation on E&S aspects; costs related to E&S due diligence and permits; purchase of the personal protective equipment; operationalization and maintenance of a functional GRM system; monitoring of the Gender Action Plan implementation; and cost of E&S audits as may be required.

(c) Knowledge management and impact evaluation, including development and implementation of the knowledge management plan (some of the already identified activities, will cover international and national learning activities on cocoa [under FOLUR] and cashew, such as knowledge exchanges and study tours [international and local]), project impact evaluation, and development and implementation of the communication strategy.

Subcomponent 4.2. Project Monitoring (MLNR PCU) (US$6.00 million, all IDA)

49. This subcomponent, led by the MLNR, will finance technical and operational assistance for day-to-day management and implementation of the project. Specific activities will include the following:

(a) Project management and monitoring by the PCU, including services of PCU consultants (project coordinator, M&E specialist, technical mining specialist, gender specialist, stakeholder engagement specialist, environmental specialist, procurement specialist, and FMS); cost of field supervision, including project oversight by the MLNR; training on M&E and data verification; capacity building for project staff; cost of FM, including installation and operation of the accounting software; cost of internal and external audit; purchase and maintenance of office equipment and logistics; incremental operating costs; and costs related to meetings and field supervision of the PSC. Costs of mid-year and annual review meetings with M&E schedule officers of the IAs, quarterly performance review meetings with the PCU, project midterm and completion reports, and participation in international conferences will be also included here.

(b) E&S risk management and monitoring, including costs of training and awareness creation on E&S aspects/project E&S instruments; costs related to E&S due diligence and permits; training of ASM firms and cooperatives on setting up and maintaining the Environmental and Social Management Systems; monitoring of the Gender Action Plan implementation; and implementation of the gender equality strategy, including gender trainings for IAs, PCU staff, and the Ghana National Association of Small-Scale Miners.

Component 5. Contingent Emergency Response Component

50. A CERC with zero allocation will be created and made implementation-ready to allow the GoG to respond quickly in case of an eligible emergency. The mechanism will be defined in a specific CERC Operational Manual that will clearly outline the triggers, eligible expenditures, procurement thresholds, and procedures for using part of IDA resources of the project to respond quickly in the event of an eligible emergency.

ANNEX 3: Gender Action Plan

1. **This Gender Action Plan highlights gender gaps, actions to address the identified project-relevant gender gaps, and indicators to measure them, to ensure differential impacts are addressed.** A gender analysis informed the development of the Gender Action Plan, aimed at enhancing gender equality and contributing to closing targeted gender gaps that could potentially limit the effectiveness of the project if not adequately addressed. The project design team has considered gender roles and their implications for the project beneficiaries in preparing and implementing a Gender Action Plan.

2. **This Gender Action Plan has been largely based upon gender assessments in the proposed project target areas of the Ghana Landscape Restoration and Artisanal Small-Scale Mining Project that describe key gender gaps, actions to address them, and indicators to monitor progress toward gender-related outcomes.**[68] The assessment is based on desk review of available documentation, key informant interviews, and in-depth consultations with members of over 50 communities in the project landscape. The assessment report provides a comprehensive review of existing gender disparities in the target areas and highlights the importance of mainstreaming gender considerations in land-use planning, landscape management, and ASM operations. The assessment also explores opportunities within the project's scope to incorporate gender-inclusive consultation and planning processes in the design and implementation of the project activities.

3. **The findings highlight several gender gaps (proportionate differences between men and women) related to ownership and control of assets (including access to resources and information)** and women's voice and agency, particularly women's weak participation in the decision-making structure and access to jobs among others**.** The major gender gaps described in detail in the report are synthesized as follows:

(a) **Weak participation in decision-making structures.** The assessment suggests that women are marginalized and often excluded in decision-making around natural resource management and ASM operations. This emanates from an absence of gender-inclusive approaches of conducting meetings. Women's voice, influence, and participation are similarly overlooked in forest committees and/or mining cooperatives. Decision-making platforms are often not sensitive to women's multiple roles (economic, domestic, and reproductive) and how these affect their availability to participate meaningfully. For example, women are limited by the time, location, and/or format of meetings or lack the support and resources (such as childcare services and transportation subsidies) needed to facilitate their equal participation.

(b) **Lack of access to credit and other productive resources.** The assessment report suggests that while access to credit is a general challenge, women are primarily affected because they have limited or no assets (for example, land ownership and finance) or productive resources to serve as collateral. Additionally, financial institutions are often skeptical about lending to women because they have relatively less training in formal financial literacy skills. Women

[68] It seeks to distinguish projects gaps relevant to the four pillars of the World Bank Group Gender Strategy (the tag identifies operations that seek to close gender gaps in human endowments, more and better jobs, and ownership and control of assets and promote women's voice and agency, which constitute the four pillars of the World Bank Group Gender Strategy 2016–23). Also, it aligns with the GEF Policy on Gender Mainstreaming.

are also unable to assert themselves to access credits from credit institutions due to existing sociocultural norms that put impediments in the processes for acquisition of credits.

(c) **Poor access to training and capacity-building activities.** The assessment finds that compared to men, women do not benefit appreciably from technology transfer and capacity building in both ASM and forest management sectors. For instance, in the forest management sectors, women rarely participate in forest management and monitoring due to lack of education and traditional norms. In the ASM sector, there is limited knowledge among women miners on traceability and value chains because women are rarely involved in training, thus relegating them to less valuable and lower-paid activities.

(d) **Lack of ownership in NTFPs.** The assessment report suggests that while both men and women have vast knowledge about the natural habitats, women play important roles in promoting the conservation of the forest environment but are also confronted with limited access to legal rights, ownership, and control attributable to patriarchal inheritance system in communities.

(e) **Difficulty in acquiring licenses in ASM.** The assessment report suggests that, in project communities, socially constructed norms and taboos limit women's participation in various aspects of ASM. These range from their presumed weakness to issues of immodesty and to taboos against women in their engagement in ASM. There is extreme difficulty in acquiring licenses given the cumbersome procedures to both men and women. However, license acquisition poses a greater challenge for women because of their limited awareness of licensing procedures, financial and technical capacity, personal freedom to get a license, and the distance of travel to MC district offices.

(f) **Limited access to alternative livelihood activities.** The assessment report suggests there is limited consultation of women during the design, planning, and delivery of alternative livelihood projects. Gender bias limits women's leaderships and access to alternative livelihoods in both forest landscape and ASM sectors due to socio-cultural norms, limited access to credit, inadequate knowledge, and skills to engage in productive income-generating activities.

(g) **Absence of appropriate skills and use of equipment and technology including value addition.** ASM operations put women at risk in the context of safe handling of hazardous and toxic chemicals. In the landscape management, forest, and cocoa sectors, women are mostly involved in value addition but lack adequate knowledge, appropriate skills, and technology in value addition and post-harvest management. In ASM, women are often excluded from undertaking value addition activities; lack ownership of the equipment and resources required for value addition; and lack access to commercial networks, gold markets, and economic links.

(h) **Impact on women's health.** Women's health is disproportionately harmed more than men's health because of lower levels of education, less access to protective equipment, and less

access to information about safe working practices.[69] Women suffer injuries and body pains in the form of cuts, sprains, and fractures from falling.[70]

4. **This Gender Action Plan (table 3.1) includes key project-related gender gaps, actions to address them, and indicators to monitor progress.** These refer to World Bank Gender Strategy objectives, for example, Objective 2: Removing Constraints for More and Better Jobs, Objective 3: Removing Barriers to Women's Ownership and Control of Assets, and Objective 4: Enhancing Women's Voice and Agency and Engaging Men and Boys.

Table 3.1. Gender Action Plan

Key Gender Gaps	Actions	Indicators
Component 1 focuses on Institutional Strengthening of Governance and Partnerships for Participatory Landscape Management		
• Women lack skills and knowledge to contribute to participatory landscape land-use planning. • Land-use management plans, strategies, and policies have weak consideration of gender gaps and closing of these gaps.	• Promote equitable gender representation in key stakeholder coordination platforms and in land-use planning teams/boards. • Build knowledge and skills of women in integrated sub-basin level land-use planning. • Improve women's participation in decision-making committees/DPMCs.[71] • Ensure that key regulations and policies supported by the project include adequate analysis of gender gaps and incorporate gender considerations. • Ensure women have equal opportunity for recruitment in land-use survey activities among others	• People participating in consultations / decision-making on natural resources management (number), including women • Women participating in decision making processes through membership in District Management and Planning Committees (number) Participants trained in SLM best practices or cross-cutting issues (number, % female)
Component 2 focuses on Regulatory Strengthening and Formalization of Sustainable ASM		
• Regulatory framework and compliance inspection do not consider the gender-specific challenges confronting women in their efforts to formalize. • Marginalization and exclusion of women in community outreaches, public education, sensitization, and awareness-	• Integrate gender (that is, women's issues) into regulatory, monitoring, and compliance inspections methodologies. • Work with appropriate institutions (including MLNR/MC, IMCIM, EPA, Ministry of Employment and Labour Relations, and Ministry of Gender, Children and Social Protection) to promote an agenda that ensures that	• Women trained in extractive industries skills (percentage) • Women participating in decision making processes through membership in DMCs (number) • Women receiving support/training on ASM

[69] Arthur-Holmes, F., and K. A. Busia. 2020. "Household Dynamics and the Bargaining Power of Women in Artisanal and Small-Scale Mining in Sub-Saharan Africa: A Ghanaian Case Study. *Resources Policy* 69 (101884); Kumah, C., G. Hilson, and I. Quaicoe. 2020. Poverty, Adaptation and Vulnerability: An Assessment of Women's Work in Ghana's Artisanal Gold Mining Sector. *Area* 52 (3): 617–625; and Hilson, G., Y. Hu, and C. Kumah. 2020. "Locating Female 'Voices' in the Minamata Convention on Mercury in Sub-Saharan Africa: The Case of Ghana." *Environmental Science and Policy* 107: 123–136.

[70] Hinton, Jennifer. 2005. *Communities and Small-Scale Mining: An Integrated Review for Development Planning*. World Bank Group.

[71] The project will ensure inclusion of at least one to two women in each DPMC to ensure that women's needs and priorities are met and that new interventions consider women's needs.

Key Gender Gaps	Actions	Indicators
creation programs leading to limited participation of women in decision-making processes. • Low number of women with ASM licenses due to difficulty for women to acquire due to bureaucracies confronting women in ASM licensing regime. • Efforts to mainstream gender failing to adequately target women in the sector primarily because the sector is predominantly dominated by men due to the perceived and socially accepted masculinity of ASM tasks. • Training programs being less gender sensitive limiting women's involvement in ASM technology transfer.	Good Practice Guidelines consider women's conditions. • Facilitate gender-sensitive workshops in regulatory requirements on ASM. • Develop gender-sensitive training programs and manuals to ensure equal access and seek to equalize rights, responsibilities, and opportunities for men and women in ASM activities. • Work with ASM license issuance institutions (for example, MC, MLNR, EPA, MESTI, and WRC) to streamline the processes that hinder women's capacity to acquire ASM licenses. • Ensure inclusion of women in any training/capacity-building activities supported by the project.	appropriate technologies (number)
Component 3 focuses on Investments for Sustainable Crop Management and Production and Forest Landscape Management and Restoration including the Management of Wildlife PAs and Biological Corridors and Restoration of Mined out Areas		
Sustainable Crop Management and Production		
• Women receive less access to extension services, have less access to information (for example, on sustainable crop management and production practices and agroforestry techniques); have less access to technologies and technical trainings (for example, farmer field schools); and have less engagement in community decision-making structures managing natural resources due to various factors such as household chores, social norms, mobility restrictions, higher illiteracy rate, and so on. • Women are heavily affected by post-harvest losses as a result of inadequate storage facilities and lack of adequate knowledge on value addition, post-harvest management, and microcredit opportunities. Women are often disadvantaged as they have	• Provide support for development of participatory community watershed management plans that includes women in leadership position in all committees. • Ensure adequate representation of women in sub-project agreements signed with farmer groups and communities. This will also ensure that planning of alternative livelihoods is gender-sensitive and considers specific needs of women which may be distinct from those of men. • Provide support for provision of post-harvest storage facilities, including knowledge for better management and reduction in productivity loss, thus, reducing loss of income. • Undertake targeted sensitization programs for women farmers on VSLA and provide VSLA support.	• CWMTs established with project support that have at least one woman (percentage) • Women included in sub-project agreements/receiving support for SLM practices and alternative livelihoods (number) • Women with increases in sole or joint control over use of income from key commodity value chains as a result of project support/activities (number) • Share of women among beneficiaries receiving post-harvest structures in place (storage, processing units) (Number)

Key Gender Gaps	Actions	Indicators
limited access to land, credit, and other resources.		
Forest Landscape Management and Restoration including the Management of Wildlife PAs and Biological Corridors and Restoration of Mined-out Areas		
• Women are often not involved in forest management monitoring and law enforcement due to factors such as cultural norms, unpaid labor/household responsibilities, lower education, and so on. • Women are underrepresented during planning and preparation stages of CREMAs. • Women are clustered in the lower value chain of forest restoration activities. • Women in mining communities are not involved in the planning of alternative livelihoods activities as it is often seen as 'compensation' to mining which is culturally seen as a male occupation.	• Increase representation of women across CREMAs management structure. • Ensure targeted PA management plans are endorsed by women or women groups. • Ensure equal access to jobs in forest restoration activities for men and women (for example, provide technical and vocational skills training). • Ensure gender-sensitive inclusive planning and implementation of alternative livelihood activities that reflect views of women. • Improve women's participation in mining sector and target activities to end the rampant gender inequities (for example, form partnership with relevant stakeholders from NGOs and government and private sectors to advocate for policies that enhance gender quality in the mining sector, provide technical trainings for women to better integrate in the sector, and provide gender awareness campaigns and so on for communities).	• CREMA Management Committees established with project support that have at least four women (percentage) • Women participating in consultations during preparation of forest management teams (number) • Women hired for forest restoration activities, with project financing (number)
Component 4 focuses on Project and Knowledge Management		
• Low representation of women in key government agencies. • Inequitable participation of men and women in knowledge activities such as gender sensitization trainings (for example, landscape related and GBV).	• Promote representation of women in key government agencies. • Ensure targeted gender sensitization trainings (for example, landscape related and GBV). • Train and delegate a gender focal point in project implementing teams. • Ensure a project-specific GRM is set up and easily accessible for women.	• Government counterparts and project team members participating in global, national and regional forums and workshops (number; % female) • Gender sensitization trainings held annually (number) • Established GRM mechanisms specific to the project (Y/N)

ANNEX 4: GEF Technical Annex – Incremental Reasoning

Rationale for GEF-7 Financing and FOLUR Alignment

1. The GEF resources were allocated by the GoG from the country's GEF-7 STAR allocation to implement multi-stakeholder ILM approaches to mitigate impacts on ecosystems and their services, under the GEF-7 FOLUR impact program. The GEF grant will be fully blended with the IDA and PROGREEN resources into one operation and used in a targeted, incremental, and complementary manner, using strategic partnerships among government entities (at national and district levels) and local communities to implement and sustain a model of ILM. This is in alignment with Ghana's CPF and the GoG's consolidated request for IDA and grant support for both the environment and mining sectors. The project's Theory of Change (Figure 2) illustrates the integrative and adaptive approach in addressing the drivers of degradation, underlying drivers of unsustainable production systems, and barriers to the scale-up of restoration activities.

Project Interventions Designed to Contribute to the FOLUR Framework

2. As a FOLUR child project, the activities are aligned with the FOLUR Theory of Change and framework for action:

(a) Strengthening policy and institutional frameworks for ILM and sustainable food systems that bring together multiple government, private sector, and community stakeholders at the landscape level to effectively plan and implement plans for sustainable agriculture value chains. Scaling up climate-smart and gender-sensitive farming production practices to enhance sustainable value chains and products with reduced environmental impacts (impact program Objective 1, Promoting sustainable food systems to meet growing global demand).

(b) Enabling smallholder women and men farmers to access incentives for sustainable cocoa production practices that can also increase land restoration. Facilitating restoration of degraded ecosystems and agrobiodiversity in the cocoa forest landscapes through spatial planning and ILM to promote resilience (impact program Objectives 1 and 3, Promoting restoration of degraded landscapes for sustainable production and to maintain ecosystem services).

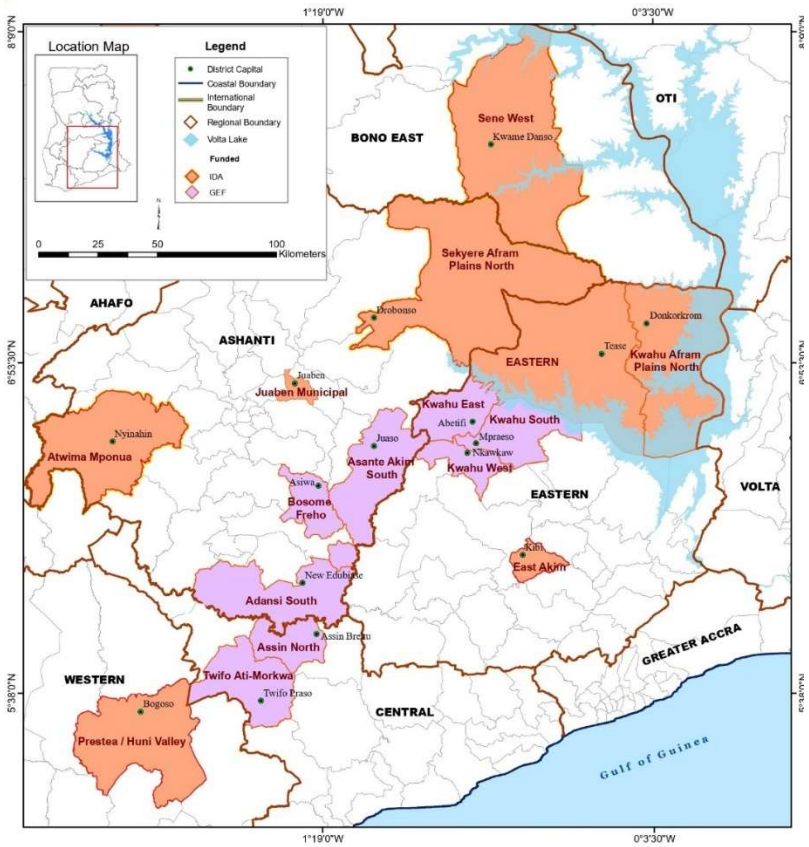
3. The project's integrated design captures the alignment with the GEF, PROGREEN, and IDA funding, and its components and subcomponents contribute to their respective frameworks. In the context of FOLUR, project Component 1 aligns with FOLUR Component 1 (Development of ILM Systems), project Component 3 aligns with FOLUR Components 2 (Promotion of sustainable food production practices and responsible commodity value chains) and 3 (Restoration of natural habitats), and project Component 4 aligns with FOLUR Component 4 (Program Coordination, Collaboration, and Capacity Building).

Scope of GEF Alternative

4. Geographically, the GEF financing will focus on the Pra River Basin investments in the cocoa forest landscape, even as the implementation area of the overall project with additional IDA and PROGREEN

support is larger and includes also the NSZ, where the GEF investments under the previous replenishment cycles have allowed the GoG to build up successful experience of land and landscape restoration through multi-agency collaboration at decentralized levels. The GEF focus under this project will be on eight target districts in the cocoa forest landscape (see map in figure 4.1. and table 4.1.) with additional districts supported through IDA (IDA will finance activities in 14 districts in the cocoa forest landscape, including complementary activities in the districts covered under GEF). These have been prioritized within the cocoa forest landscapes based on feasibility of success resulting from ongoing initiatives and the relevance to the FOLUR impact program. These districts have noted expansion of cocoa farms into FRs[72] and in off-reserve forest areas and thus face several environmental challenges caused by cocoa-driven deforestation, declining soil fertility, increased pests and diseases, poor agricultural practices, and evidence of strong impending climate change impacts on rural livelihoods that would amplify the pressure on existing forests. Refer to section II and annex 2 for the overall project intervention areas.

Figure 4.1. Project Districts in the Cocoa Forest Landscape



Source: EPA.

5. Tables 4.1 and 4.2 provide spatial coordinates of the centroid points for the GEF targeted districts and FRs.

[72] Seven FRs: Southern Scarp, Northern Scarp East, Northern Scarp West, Pra Anum, Fum Headwater, South Fomangsu, and Prakaw.

Table 4.1. Target Districts within the Pra River Basin and Geographic Coordinates

Region	District	District Capital	West	North
Eastern	Kwahu East	Abetifi	−0.813829	6.707879
Eastern	Kwahu West	Nkawkaw	−0.777619	6.517339
Eastern	Kwahu South	Mpraeso	−0.571471	6.629601
Ashanti	Asante Akim South	Juaso	−1.119007	6.476127
Ashanti	Bosome Freho	Asiwa	−1.362029	6.353211
Ashanti	Adansi South	New Edubiase	−1.656847	6.019861
Ashanti	Juaben Municipal[73]	Juaben	−1.416515	6.789696
Central	Assin North	Assin Bereku	−1.377273	5.836695
Central	Twifo Ati-Morkwa	Twifo Praso	−1.598697	5.672550

Table 4.2. GEF Target FRs, Geographic Coordinates

Region	Forest District	Reserve Name	West	North
		Southern Scarp	−0.876625	6.685165
		Northern Scarp West	−0.726936	6.721488
	Mpreaso	Northern Scarp East	−0.578135	6.662318
Eastern	Akim Oda	Pra Anum	−1.174401	6.259320
	Bekwai	Fum Headwaters	−1.328116	6.254494
		South Fomangsu	−0.959831	6.577851
	Juaso	Prakaw	−1.042490	6.489440
		Tano Offin	−2.136069	6.721403
		Offin Shelterbelt	−1.450592	7.009270
		Jimira	−1.922611	6.599158
Ashanti	Nkawie	Asenanyo River	−2.134372	6.446810

Cocoa Landscape Profile, Natural Resource Context, and Issues

6. **The Pra River Basin** falls within a landscape of key national and global importance. Nationally, the Ashanti region, which covers more than half of the basin, is the second largest producer of cocoa beans in Ghana.[74] The landscape also has a significant share in the production of economically important staple foods such as cassava, plantain, maize, cowpea, yam, and cocoyam. Furthermore, the basin falls within the Upper Guinean rainforest, which has been recognized as a global biodiversity hot spot due to a high presence of endemic species.[75]

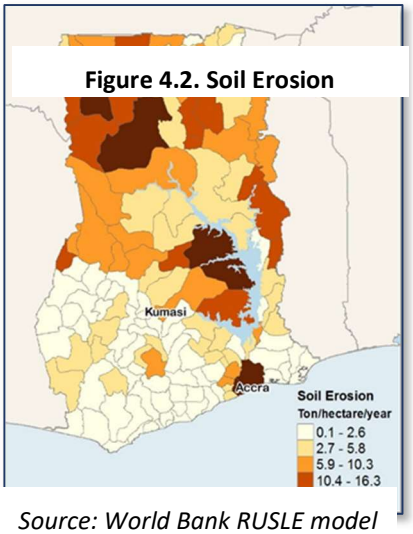
7. However, the Pra Basin landscape is faced with multiple environmental threats which need to be addressed. First, land degradation has been increasing in the landscape for more than a decade resulting in a sharp decline in agricultural yield. This has forced smallholders[76] to expand their cultivated lands into forest lands—including especially cocoa production, traditional bush fallow systems, and grazing practices—and rising demands for water are becoming increasingly unsustainable. Second, achieving transformational changes of agricultural practices is hampered by difficulties of scaling up SLM practices due to the large number of smallholders whose access to agricultural inputs and markets is limited. Third,

[73] This district is in the Pra Basin; all activities in it are financed by IDA.
[74] https://cocobod.gh/weakly_purchase.php.
[75] https://eros.usgs.gov/westafrica/land-cover/deforestation-upper-guinean-forest.
[76] Smallholder farms—mostly less than 2 ha in size, operated by families and using traditional technologies—are the common agricultural practice in the targeted landscape.

current agricultural practices adversely affect not only agricultural lands but also water bodies, forests, and natural habitats leading to more land degradation and deforestation and thereby further reducing environmental quality. Expansion of cocoa production to forested landscapes and overexploitation of forest resources such as timber and NTFPs causes further forest degradation and deforestation. Fourth, the basin area has rich deposits of mineral resources and in recent years has attracted unsustainable mining activities which have led to land degradation and contamination of water bodies with mercury. Finally, there exist barriers to effective governance and a need for comprehensive integrated basin-level management planning with a strong focus on climate-smart cocoa initiatives, to ensure long-term sustainability.

8. **Overall, land degradation[77] has increased over the past two decades in Ghana.** Land degradation is intensifying in the north and middle of the country (particularly Upper West, Northern, Upper East, Brong Ahafo, and Ashanti regions - also see figure 4.2) (RUSLE model, World Bank). Agriculture is the primary driver of land degradation in Ghana.

Figure 4.2. Soil Erosion



Source: World Bank RUSLE model

9. **Forest and natural habitat areas are increasingly degraded** by agricultural encroachment, commercial logging (legal and illegal), extraction of NTFPs, mining, hunting and grazing, and associated burning. Notably, illegal ASM also contributes to deforestation (through complete removal of vegetation) and land degradation (through removal of topsoil).

10. **According to the National Forest Reference Level for REDD+ (2001–2015),[78] since 2000, there has been an increase in deforestation and forest degradation.** Ghana's deforestation rate has been approximately 3.51 percent per year (311,879.8 ha per year) since 2001. Recent years have also seen a further increase in the deforestation rate; from 2012 to 2015, the annual deforestation rate in Ghana rose to 524,489 ha per year.

11. **At the national level, conversion of forests to cropland was estimated to account for about 53 percent of deforestation during 2001–2015, making it the most important driver of deforestation in Ghana.** This conversion is largely driven by the expansion of annuals (which accounts for about 80 percent of deforestation resulting from agricultural expansion). Tree crop expansion, particularly cocoa, oil palm, and rubber, cumulatively account for the remaining 20 percent of conversion of forests to agriculture. The second biggest driver of deforestation is conversion to grassland, accounting for about 44 percent of deforestation in the reference period. Conversions to grassland occur mainly in Ghana's savannah and

[77] Land degradation is defined as "reduction or loss, in arid, semi-arid and dry sub-humid areas, of the biological or economic productivity and complexity of rainfed cropland, irrigated cropland, or range, pasture, forest and woodlands resulting from land uses or from a process or combination of processes, including processes arising from human activities and habitation patterns, such as: (i) soil erosion caused by wind and/or water; (ii) deterioration of the physical, chemical and biological or economic properties of soil; and (iii) long-term loss of natural vegetation." (Article 1 of the 1994 United Nation's Convention to Combat Desertification).

[78] https://redd.unfccc.int/files/ghana__modified_frl_november_10_2017_clean.pdf. A national forest reference emission level is one of the elements to be developed by developing country Parties implementing REDD+ activities (according to paragraph 71 of decision 1/CP.16). Reference levels are expressed as tons of CO_2 equivalent per year for a reference period against which the emissions and removals from a results period will be compared. Thus, reference levels serve as benchmarks for assessing each country's performance in implementing REDD+ activities. Reference levels need to maintain consistency with the country's GHG inventory estimates. (Reference: https://redd.unfccc.int/fact-sheets/forest-reference-emission-levels.html*).*

transitional zones where wildfire and pastoral activities are predominant, and forest ecosystems are fragile and, therefore, subject to change with relatively minimal disturbance.

12. **There are significant forest losses occurring across the cocoa forest mosaic landscape, which covers Ghana's High Forest Zone and transitional zone.** Degradation and deforestation in Ghana's cocoa-forest landscape are driven by low-yielding expansive agricultural practices (predominantly cocoa farming), illegal logging including illegal chain saw operations, and illegal mining (as described in Ghana's National REDD+[79] Strategy).

13. **The Savannah areas have also experienced significant reductions**, from about 51 percent to 40 percent of the total land area from 1975 to 2013.[80] The formerly uninterrupted savannah landscapes of the Central Sudan Savannah, Main Transitional Zone, and Central Transitional Zone are now highly fragmented, with large tracts of natural habitat broken into myriad patches of farmland, reducing habitat suitability for many types of wildlife. In the forest savannah transition zone, savannah and tropical dry forest occur in close proximity under similar climatic conditions. Tropical dry forests are particularly vulnerable to anthropogenic disturbances and experience high deforestation rates.[81]

14. Major threats to biodiversity include land-use conversions, habitat degradation, over-exploitation, invasive alien species, climate change, predation, wildfires, and poaching. Land-use conversions involve large-scale farming and mono-cultural plantations (for example, teak [Tectona grandis] which is an exotic tropical hardwood species planted in lieu of native species).

15. **Habitat degradation** is caused by pollution, misuse of fire (such as bush burning for traditional activities or farming), over-harvesting of genetic resources, and misapplication of chemicals. Over-exploitation involves excessive cutting of trees in stressed environments for firewood as an energy source (charcoal burning), bycatch, and the use of inappropriate harvesting techniques.

16. **Healthy ecosystems and forests play an important role in the resilience of local communities.** Sustainable forest management and access to services and benefits from forests and wildlife PAs can help vulnerable communities better absorb and adapt to the impacts of shocks and stressors, among them climate change.[82] Ghana's NDC to the Paris Climate Agreement place a strong emphasis on adaptation to ensure that all people and communities are resilient to climate impacts. Sustainable land use, including food security and sustainable forest management have been identified as two priority sectors in the NDC.[83]

[79] REDD+ stands for Reduced Emissions from Deforestation and Forest Degradation and the Role of Conservation, Sustainable Management of Forests, and Enhancement of Forest Carbon Stocks in Developing Countries.
[80] https://eros.usgs.gov/westafrica/land-cover/land-use-land-cover-and-trends-ghana. Accessed on March 28, 2020.
[81] Hansen et al. 2013. "High-resolution Global Maps of 21st-century Forest Cover Change." *Science* 342 (80), 850–853.
[82] Braatz, S. 2012. "Building Resilience for Adaptation to Climate Change through Sustainable Forest Management." In *Building Resilience for Adaptation to Climate Change in the Agriculture Sector*, edited by A. Meybeck, J. Lankoski, S. Redfern, N. Azzuand, and V. Gitz, 117–28. Proceedings of a Joint FAO/OECD Workshop. http://www.fao.org/3/i3084e/i3084e09.pdf.
[83] Ghana's NDC includes actions that Ghana has committed to undertake as part of its climate change mitigation and adaptation agenda. The implementation of the actions is expected to help attain low-carbon climate resilience through effective adaptation and GHG emission reduction in the following priority sectors: (a) sustainable land use including food security; (b) climate-proof infrastructure; (c) equitable social development; (d) sustainable mass transportation; (e) sustainable energy security; (f) sustainable forest management; and (g) alternative urban waste management.

17. **Climate change is a significant threat for Ghana, as the country is susceptible to both Atlantic Ocean and Sahelian climate effects.** There is widespread evidence and acknowledgement that Ghana is already experiencing increased temperatures, changes in rainfall patterns, unpredictable extreme weather events, a rise in sea level, increasing GHG emissions, and loss of carbon sinks. Though predictions vary, climate change threatens to adversely affect the health and well-being of people and communities, natural and agricultural resources, and infrastructure,[84] which could derail progress on economic and social development. The GoG developed a Climate Change Policy 2012 which aims to build a climate-resilient economy while achieving sustainable development.

18. **Temperatures have been increasing since the 1960s,[85] and Ghana's current climate is the driest on record (since 1901).** Climate change impacts will worsen, particularly from March to June, as precipitation is projected to decrease by 4 percent annually by 2040. Temperature increases will continue, particularly in the north, with 1.4–4.2°C increases and up to 90 percent of days exceeding 35°C by 2100. Literature[86] projects cocoa losses of 3 percent by 2030 and up to 5–7 percent by 2050.

19. **Suitable cocoa production areas are expected to contract significantly by 2030,[87] as cocoa is extremely sensitive to heat, drought, pests, and erosion.** Cocoa smallholder farmers are already experiencing climate stresses, including erratic rainfall patterns, increased temperatures leading to droughts, and changing patterns of pests and diseases. These stresses are exacerbated by the current cocoa production practices in Ghana and low farmers' ability to adapt to the impacts of climate change. They call for adaptation actions. Ghana's Third National Communication to the UNFCCC[88] identifies the following adaptation actions as priority for the cocoa sector: improved farming practices, drought resistant/tolerant and high-yielding varieties, zero tillage and non-burning of vegetation and mulching for conservation of soil moisture, planting of shade trees to moderate the micro-climatic conditions of the cocoa environment, rehabilitation and restoration of degraded (moribund) cocoa areas, development of off-farm income generating activities, and alternative land-use activities (for example, planting of other tree crops). Climate-smart cocoa production is one of nine identified priorities in the Climate Smart Agriculture Investment Plan for Ghana.

Baseline Context and Scenario

20. In the absence of the proposed project, development activities which are sectoral and fragmented in nature will continue without a focus on sustainability and long-term planning. Such single-sector interventions cannot adequately capitalize on the investments and deliver a sufficient range of global environmental outcomes across themes, sectors, and stakeholders. In the baseline scenario, degradation of forest landscapes will continue, including (a) continued land and forest degradation, conversion of native forests to other uses, and associated E&S risks; (b) continued weak capacity within communities to manage forest landscape corridors; (c) more siltation of waterways; (d) greater fragmentation within and

[84] Government of Ghana MESTI. 2012. *National Climate Change Policy*.
[85] Tawia Abbam et al. "Spatiotemporal Variations in Rainfall and Temperature in Ghana Over the Twentieth Century, 1900–2014." 2018. https://doi.org/10.1002/2017ea000327.
[86] http://documents1.worldbank.org/curated/en/300161592374973849/pdf/Climate-Smart-Agriculture-Investment-Plan-for-Ghana.pdf.
[87] Yaro. "Building Resilience and Reducing Vulnerability to Climate Change: Implications for Food Security in Ghana."; World Bank. 2017. "Ghana Dashboard," Climate Change Knowledge Portal. http://sdwebx.worldbank.org/climateportalb/home.cfm?page=country_profile&CCode=GHA&ThisTab=ImpactsVulnerabilities; USAID, "Ghana."
[88] Republic of Ghana. 2015. *Ghana's Third National Communication to the UNFCCC*. Climate Change Report.

among production and conservation landscapes as ecosystems degrade or become difficult to restore; and (e) greater vulnerability to climate variability and change including through reduced food security and increased frequency and severity of drought and flooding events. These are resulting in reduced livelihoods opportunities, necessitating restoration of ecosystem functions in the landscape from community-driven approaches.

21. Baseline investments in the cocoa forest landscapes include a strong portfolio of ongoing World Bank-financed operations that support sustainable cocoa and zero deforestation in Ghana. These include the following:

(a) **The FIP (P148183)** improves forest and tree management practices by cocoa farmers, CREMA communities, and FR managers to reduce forest loss and degradation in selected landscapes in Ghana's High Forest Zone. In addition, it helps finance the costs associated with augmenting the REDD+ by supporting the reduction of degradation and deforestation due to artisanal SSM in forest landscapes; the enhancement of private investment in forest plantation development, with community job creation, in forest and cocoa landscapes; and, support to CSOs to support a comprehensive approach to achieving results for the REDD+ agenda

(b) **The Ghana Emissions Reduction Program/Ghana Cocoa Forest REDD+ Program (P160339).** In 2019, Ghana signed a landmark deal (the Emissions Reduction Purchasing Agreement) with the World Bank to cut carbon emissions and reduce deforestation. In this agreement, the Forest Carbon Partnership Facility (FCPF) Carbon Fund commits to making initial results-based payments for reductions of 10 million tons of CO_2 emissions (up to US$50 million) to help Ghana meet its national climate commitments under the Paris Agreement. The World Bank has recently partnered with the World Cocoa Foundation (secretariat of the CFI) to support ongoing dialogue with private sector companies on concretizing their commitments on sustainable cocoa practices.

(c) **The Cocoa Value Chain Development Project (P172850, under early preparation stage),** will aim to sustainably improve the productivity of cocoa and to increase the diversification of the incomes of smallholder farmers. The components are designed to focus upon support for climate-smart cocoa intensification, sustainable livelihoods, income diversification, institutional capacity strengthening, and sector dialogue.

22. Notably these align with the CFI and will serve as a basis from which this proposed project will draw complementarities and build synergies on the ground. The CFI is an initiative where the Governments of Côte d'Ivoire and Ghana and 34 leading cocoa and chocolate companies have joined together to end deforestation and restore forest areas. This collective effort, started in 2017 during the United Nations (UN) Climate Change Conference, has reported on the first two years of implementation. In 2018 and 2019, companies have notably increased traceability in their direct supply chains with farm mapping, put in place systems to eliminate deforestation from their cocoa sourcing, and distributed trees to increase canopy cover and sustainable production with cocoa agroforestry. The proposed project in coordination with CFI will support the three priorities of the initiative: (a) forest protection and restoration through its activities in Component 3 (for example, sustainable forest management); (b) sustainable production and farmer's livelihoods through its activities in Component 3 (for example, sustainable cocoa practices and alternative livelihoods); and (c) community engagement and social inclusion through its

activities under Components 1 and 3 (for example, participatory land-use planning and VSLAs to promote better inclusion of women).

23. Additionally the project will also draw on lessons generated by the ongoing SLWMP and the Dedicated Grant Mechanism for Indigenous People and Local Communities Project (P145316) under the FIP which supports activities to ensure prior-informed participation of communities in the REDD+ process with a focus also on strengthening knowledge, practices, and livelihoods of targeted communities in sustainable forest management.

Incremental Reasoning

24. The proposed project using Ghana's GEF-7 STAR and FOLUR impact program incentive resources (US$12.75 million) is fully blended with a World Bank IDA credit of US$50 million (of which US$25 million is considered a direct complement to the GEF interventions) and incrementally complements the above mentioned baseline investments from the World Bank IDA portfolio in the cocoa forest landscapes. For incremental reasoning and analysis, the total associated co-financing is estimated at US$124.5 million. This includes US$25 million of World Bank IDA funds under the blended project (directly supporting intervention in the cocoa forest landscape), FIP (US$10 million), Emissions Reduction Program (US$25 million), and the Cocoa Value Chain Development Project (US$300 million IDA, of which an estimated amount of US$60 million) will directly complement the project). The co-financing also includes a GoG contribution of US$4.5 million. Notably, the CFI contributions are expected to be leveraged as implementation begins and activities relating to the COCOBOD take effect.

25. The PROGREEN resources (US$15 million) leveraged under the project specifically target the Western Wildlife Corridor in the NSZ and have, therefore, not been considered as direct co-financing for the GEF interventions.

26. Project design interventions are expected to support the mobilization of the private sector during implementation, essentially cocoa and chocolate companies (members of WCF) that are also signatories of the CFI. The world's leading chocolate companies, led by the WCF, Prince of Wales, and IDH[89] announced their commitment to stop deforestation in Ghana and Côte d'Ivoire driven by cocoa expansion and to support climate-smart cocoa production. Coupled with the increasing global demand for sustainability in the supply of cocoa beans, there is a clear positive incentive and common interest among cocoa producers, regulators, buyers, and chocolate makers to move to more sustainable and climate-friendly production practices. This commitment also speaks of the viability of marketing climate-smart/no-deforestation beans in the near future. Both the FIP and this project will be supporting the initiative. More specifically, the proposed project will build upon the efforts being made by the FIP to ensure restoration and sustainable management of FRs, increase trees and enhance carbon stocks in the farming systems to promote sustainable cocoa and agriculture practices, and map mined-out sites.

27. The added value of GEF support is the contribution toward removing key barriers and emerging gaps associated with increased investments in sustainable production practices and support systems, governance processes to enhance participation in comprehensive land-use and restoration planning, and environmentally sustainable food and commodity value chains focused on the cocoa production. Other ongoing initiatives are focusing on cocoa production regions in the High Forest Zone and this project will

[89] IDH stands for *Initiatief Duurzame Handel* (Sustainable Trade Initiative).

expand the geographic coverage to focus in the PRA and transitional zone. This expansion and scale-up in itself has added value compared to baseline. The rehabilitation of cocoa combined with holistic farm level planning that views returns from cocoa and food security comprehensively is a newer element of the project. GEF financing will build upon these gaps to contribute to FOLUR's objective of achieving sustainable transformation of the cocoa food system.

28. Significantly, this project will advance the global environmental sustainability agenda by demonstrating new integrated models of sustainable commodity production, biodiversity conservation, and landscape restoration at the jurisdictional level. Specific interventions include a mix of improved climate-resilient seed varieties, improved water harvesting, agroforestry, silvo-pasture, contour bunding, organic composting, zai pits, riverbank restoration, tree planting, crop rotation and intercropping, slash and mulching, ridging, vegetative barrier planting, cover cropping, dry season gardening, and sustainable fire management. These techniques have been tested and proven under earlier investments under the FIP and the SLWMP. Contribution to biodiversity conservation can be seen through the restoration of natural habitats and avoiding forest loss.

29. Working with the COCOBOD, private sector cocoa buying companies, and smallholders, this project will adapt and replicate successful approaches across the cocoa forest landscape in the Pra Basin. These models can also contribute to the global program through replication in nearby West and Central Africa, as well as globally for cocoa and a range of other globally relevant commodities.

30. The GEF support will also address existing gender gaps in terms of the limited access that women have to productive resources, incomes and income management, and empowerment opportunities and invest in their technical and leadership skills so that they can participate in decision-making and fully benefit from the project's interventions. A Gender Action Plan has been prepared for the project (annex 3).

Global Environmental Benefits

31. Under an integrated approach, the GEF financing will help address the following:

(a) **Land degradation.** By improving agroecosystem goods and services and reducing their vulnerability to climate change and other human-induced impacts.

(b) **Biodiversity conservation.** By mainstreaming biodiversity across the production sector informed by ecosystem values and promoting conservation through addressing direct drivers of forest degradation and habitat destruction.

(c) **Deforestation and loss of soil carbon sequestration potential (by addressing soil carbon increase and soil enrichment from compost).** These will result in reducing erosion and restoring forest biodiversity in productive landscapes and help maintain the overall functioning, resilience, and adaptiveness of the cocoa forest landscape thus delivering on multiple interrelated environmental benefits of local, national, regional, and global significance.

32. Notably also, the project is designed to supports efforts to address key problems and challenges facing the cocoa sub-sector in enhancing productivity and production and as a result is expected to

translate into an increase in income and poverty reduction. Also, the support to shade cocoa will enhance carbon sequestration and the improvement in productivity will reduce the incursion into forest areas, which will support the outcome of reduced deforestation.

33. The project will contribute directly to the GEF focal area objective of maintaining and improving flows of agroecosystem services to sustain food production and livelihoods (LD-1-1), mainstream biodiversity across sectors as well as landscapes and seascapes through biodiversity mainstreaming in priority sectors (BD 1-1 and 1-4), and demonstrate mitigation options with systemic impacts for FOLUR Impact Program (CCM 2-6). This will in turn significantly advance the FOLUR goal of contributing to the sustainability of global food systems, given the global significance of cocoa-producing landscapes as a source of cocoa for export and domestic consumption. The project will support integrated landscape/sub-basin-level spatial planning in 10 sub-basins covering an area of 9,632,311 ha. As a result of the project, close to 3 million ha of land will be placed under sustainable landscape management practices. GEF-specific core indicators defined for the project and its alignment with the project's Results Framework is illustrated through the GEF indicator equivalency table (see table 4.3).

34. Significantly, natural resources, including land and forests, are critical to recovery from COVID-19. Restoring natural habitats, engaging in community-based information and outreach campaigns, and supporting communities on developing viable alternatives to bushmeat can be vital in preventing and slowing contagion in the case of a pandemic while providing meaningful support to efforts aimed at preserving biodiversity in the target areas and reducing human exposure to zoonotic diseases.

Table 4.3. Equivalency Table for GEF Core Indicators

GEF Core Indicator	Project Results Framework Indicator	EOP target Attributable to GEF
CI.3: Area of land restored (Hectares)		**81,468**
Sub-indicator 3.2: Area of forest and forest land restored	• **Area under sustainable forest management as a result of the project (in FRs) (ha)** (PDO-level sub-indicator) • **SFM activities in buffer areas outside FRs (ha)** (monitored outside the Results Framework)	49,123 32,345
CI.4: Area of landscapes under improved practices (excluding protected areas) (Hectares)		**71,870**
Sub-indicator 4.1 - Area of landscapes under improved management to benefit biodiversity	**Area under collaborative, integrated and innovative management and with improved climate resilience (CREMAs) (ha)** (PDO-level sub-indicator)	28,970
Sub-indicator 4.3: Area of landscapes under sustainable land management in production systems	• **Area under conservation agriculture (ha)** (PDO-level sub-indicator) • **Trees in production landscapes outside of forests (hectares)** (PDO-level sub-indicator) • **Area under improved catchment management (riparian vegetation) (hectares)** (PDO-level sub-indicator)	39,600 2,000 1,300
CI.6: Greenhouse Gas Emissions Mitigated (tons of CO_2e)	GHG emissions estimated using EX-ACT (see note)	**23,736,711** tCO_2e

GEF Core Indicator	Project Results Framework Indicator	EOP target Attributable to GEF
CI.11: Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment	**People in targeted areas with increased benefits as a result of the project (Citizen engagement indicator) (Number)**	**62,050** M: 37,230 F: 24,820

Note: Calculation of GHG reductions attributable to the GEF is based on the investments in the Cocoa Forest Landscape over the GEF standard period of 20 years.

Innovations

35. The project will reflect the overall innovative nature of the FOLUR impact program as a whole, by moving beyond conventional 'mainstreaming' approaches focused on individual crops and farming systems of ecosystems, to address the synergistic links between food systems, markets and value chains, livelihood systems, and landscapes in an integrated and holistic manner. The project will focus on innovation by (a) promoting collaborative management of conservation and production landscapes; (b) promoting an integrated landscape approach for multiple benefits based on forest products, agriculture, conservation, mining, and the jobs and livelihoods from these; and (c) leveraging private investors to partner with the Government and villages on commodity crops, more specifically through (i) fostering networks and linking farmers and value chain actors to establish viable business models; (ii) sub-basin management plans linked to the medium-term development plans of the respective District Assemblies for long-term sustainability; (d) incorporating innovative decision-support tools for selected value chains to assess results (for example, Global Forest Watch suite of tools); (e) fostering partnerships through platforms (monitoring restoration and cocoa-driven deforestation); and (f) promoting social inclusion through civil society/community engagement (including gender equality). Overall, within the context of Ghana, innovation lies in the various efforts to ensure the sustainability of the interconnectivity between conservation and production, to move in a direction where the uptake of sustainable practices continues to maintain the needed momentum.

Sustainability and Scale-up

36. **Sustainability is central to the design of this project.** The project's mainstreamed and decentralized execution structure with the core structure of the PCU at the national and district levels fully made up of the Government institutions reflects national ownership and long-term institutional durability. The project also promotes buy-in of stakeholders in the targeted areas, resulting in effective outreach, scaling out, and sustainability. Further the project will establish a multi-stakeholder coordinating body which will serve as a platform for thematic discussions, sharing of information, and supporting the implementation of key activities, thus enhancing the replication potential.

37. Capacity-building activities during the life of the project for the various institutions responsible for the execution of the project will help deliver and sustain their continued efforts as part of their designated functions and roles in the relevant ministries, after project completion. Notably, the focus on enhancing the capacities of national- and district-level institutions and of farmers will allow continuous innovation to adapt to evolving environmental and climatic conditions. By involving both public and private sector actors as relevant during project implementation, for capacity building and technical assistance, the project will support the potential for scale-up. The uptake and impacts of the project

interventions will be further enhanced through a gender-sensitive sustainable livelihoods approach to support farming households and communities across the targeted areas.

38. Environmental sustainability will be enhanced through all project activities which are designed to deliver local and global environmental benefits. The overall sustainability of cocoa supply chains in Ghana revolves around the management of landscape and promoting practices and incentives that avoid the extension of cocoa areas into forests. Sustainability in the context of project support is on two levels: (a) adopting better standards of cocoa production (better varieties, management, and harvesting practices), which reduce the cocoa expansion and thereby make it possible for farmers to produce cocoa from their existing land parcel without incurring additional labor costs related to opening up new areas and investments and (b) ensuring quality of cocoa post-harvest. This is aligned with the premise of the concept approved under FOLUR.

Knowledge Management

39. Knowledge is an important element of institutional sustainability under the project. The project activities underpin the generation and sharing of knowledge and facilitate the synthesis, exchange, and uptake of knowledge.

40. Knowledge sharing, learning, and building partnerships are part of the project's knowledge management approach which is budgeted (at US$4.87 million, including US$1.1 million from GEF (see table 4.4 and GEF budget matrix), US$2.1 million from IDA and US$1.7 million from PROGREEN and mapped to various components of the project (annex 2, component description). Broadly, knowledge management activities will aim to build broader capacity and ensure wider stakeholder engagement in the policy work supported under Component 1 and overall project coordination with FOLUR.

41. As a child project under FOLUR, the project will engage with the FOLUR global platform to share lessons learned outward and bring lessons, investment, and good practice to Ghana. To achieve transformation in food systems and commodity production practices at a global scale, the country-level efforts and global efforts need to work together. The project will, therefore, benefit from FOLUR through participation in global- and regional-level dialogue and action (Pillar C of the platform on Strategic Knowledge Management and Communications and other relevant pillars) under the global platform. Knowledge management activities, as defined for the overall project scope, will aim to raise broad awareness on the project's outputs and emerging knowledge and innovations, in particular in-country, engage in dialogue and relevant roundtables, and build the related capacities for both national and regional trans-boundary cooperation. The knowledge products developed in Ghana will be shared as part of regional and global engagement. Potential opportunities of engagement according to guidance of the FOLUR coordination project are as follows:

- **Global engagement** through participation in global meetings of FOLUR partners and core partners and other key meetings and roundtables. For example, consider models for cocoa rehabilitation support, leveraging on the ongoing work by the FCPF on lessons from other countries such as Colombia and Peru that can demonstrate who works and how the governments are supporting such efforts.

- **Regional engagement in commodity platforms and training events** through participation in regional cocoa platform discussions with private and public sector representatives including

with the CFI/WCF; contribution to regional training and dialogue workshops on sustainable cocoa practices, exploring opportunities with International Finance Corporation (IFC) through the FOLUR coordination platform activities. Trans-boundary dialogues on the cocoa sector through the CFI can be strengthened with neighboring countries, especially Côte d'Ivoire, in the context of cocoa traceability (with regulatory agencies and common private sector companies working both Côte d'Ivoire and Ghana). FOLUR's coordination and dialogue mechanisms will help exchange with partner projects to generate lessons for uptake and replication.

- **Trainings, knowledge, and communication** through developing/disseminating training guidelines and promotion material on landscape-level land-use planning, landscape restoration, and sustainable cocoa production practices. This will include utilizing the opportunities through the FOLUR global platform and its core partners supporting the knowledge and communications. On in-country training, knowledge sharing, and dialogue workshops (sustainable cocoa practices, their contribution to sustainable landscapes, and related standards for certification opportunities, and so on), the project where relevant will work in close coordination with national academic and technical institutions and other relevant organizations/platforms. Notable also is that learnings from the cocoa sector can be adapted to shea and cashew value chains for Ghana, particularly in the context of collaborating with PROGREEN activities to leverage larger impacts. Overall, the project will enhance effective communication (videos and guidelines) to share project results and experiences (outcome stories, blogs) that can assist in leveraging future financing and also ensure that knowledge from the project is transferred into the Government's action plans and framework for wider scale-up nationwide.

Table 4.4. Knowledge Management Interventions and Contributions (in US$)[90]

Key Knowledge Management Activity	GEF Budget	Global Contribution	Regional Contribution
Subcomponent 1.1. Integrated landscape management planning and monitoring			
Establishment and training of 10 sub-basins planning platforms for sub-basin level land-use planning in cocoa landscape	50,000		
Development and disseminate a sub-basin planning manual in the cocoa landscape	120,000	√	√
Subcomponent 1.2. Enabling environment for restoration activities, sustainable production, and value chains within the landscape			
Training of the district-level planning teams on Watershed Planning Manual within the Cocoa Landscape	60,000		
Subcomponent 3.1. Planning, capacity, and implementation of SLWM in target micro-watersheds			
Training of the COCOBOD staff on watershed/community level planning in the cocoa landscape	39,775		√
Update and dissemination of the enumerators manual for the cocoa management system	51,595	√	√
Trainings for the CSOs/NGOs for support on micro watershed planning and cocoa farmer communities' sensitization	138,350		√

[90] The table reflects the contribution attribution for GEF purposes but all activities have the associated national-level benefits.

Key Knowledge Management Activity	GEF Budget	Global Contribution	Regional Contribution
Subcomponent 3.2 Value addition, market access, and income diversification			
Training programs to enhance farmers knowledge and skills in effective cocoa fermentation, drying and storage, improving the quality and flavor of cocoa beans, value addition to cocoa by-products, such as cocoa pod husk and cocoa sweating	180,471		√
Building knowledge on the integration of gender considerations into cocoa extension activities	35,315	√	√
Training of project beneficiaries, especially women and the youth, on FM systems such as VSLA, bookkeeping including engagement of NGOs for training and backstopping of the VSLA groups	120,000	√	√
Subcomponent 3.3. Forest management planning and investments in and around FRs			
Building capacity of the project implementation staff at COCOBOD for effective implementation and knowledge sharing, including project-related manuals, guidelines, and frameworks	4,941		√
Training of farmers on hand pollination	81,500		
Training farmers in farm economics, business approach to farming, cooperative formation and management, access to inputs, credit, and markets	32,926		√
Subcomponent 4.1. Project monitoring and knowledge management			
Training of the IAs and District Assembly staff on integration of E&S considerations in implementation of project activities (including development of appropriate materials: manuals, guidelines for incorporating of safeguard measures and so on)	100,000	√	√
Knowledge exchange and contribution to FOLUR Global Platform			
Participation in the annual FOLUR/regional conference (four events in the project period, at least four participants from Ghana)	20,000	√	
Regular transboundary dialogue (videoconferences, expert visits, production of joint knowledge materials, and so on)	30,000		√
Regional. Knowledge exchange/travel of Ghana team to Côte d'Ivoire	30,000		√
Regional and global. Publications, communications, production of videos	10,000	√	√
Total	**1,104,873**		

Private Sector Engagement

42. The cocoa sector is highly regulated by COCOBOD but has started to open the space for the private sector to directly purchase cocoa beans from farmers, import agricultural input (fertilizer and agrochemicals), and provide a number of services. COCOBOD controls critical activities, ranging from basic research and agronomy, provision of extension services to farmers, seed production, provision of subsidized input, and export of cocoa beans. The role played by COCOBOD in ensuring quality is acclaimed as the trademark of Ghana's cocoa, which has earned the country a quality premium. Currently, however,

private sector growth perspectives appear limited to the few areas where the private sector is allowed to operate.

43. Within the context of the GEF support, the role of the CFI is critical as it builds off the Emissions Reduction Program design and implementation in the context of REDD+. WCF is the secretariat for the CFI and together with the MLNR which is a key IA, the project will maintain a close working partnership. Private sector engagement on cocoa is somewhat different compared to other cash crops and food crops and commodity value chains in Ghana.

44. As cocoa production in Ghana is largely for export, the private sector engagement focuses on production and quality aspects, and less so on marketing and processing for chocolates. A critical gap emerging is having all licensed buying companies adhere to the same production standards including on zero deforestation cocoa production and identification of hot spot intervention areas for cocoa to identify priority landscapes and opportunities for collective private sector investment. Therefore, private sector investments in the implementation of activities will place emphasis on protection/restoration, productivity, and livelihoods, centering on aspects of land governance and productivity. The project working with COCOBOD and WCF (which is central to the CFI) is expected to continue to support the building blocks to develop landscape agreements for collective action, including landscape assessments and development of governance structures and management plans. The initial Frameworks for Action signed by companies are structured around three critical themes of (a) forest protection and restoration, (b) sustainable production and farmers' livelihoods, and (c) community engagement and social inclusion. Potential opportunity for co-investment in implementation such as landscape-level agroforestry and off-farm reforestation areas such as those cocoa farms that have been subjected to *galamsey* and community-based natural resource management will be explored under Component 3. WCF is in the process of establishing a cocoa farm data set into which companies will upload their farm-level data. The analysis of the data will inform, among others, the prioritization of areas prone to deforestation and production of deforestation risk maps to guide future actions and investments. The GEF support (under Component 1) will be directed around updating of this data platform for tracking and updating deforestation maps on a regular basis. Farmer cooperatives are an important avenue for channeling input support and trainings on sustainable cocoa practices. The GEF support will align to structures at the district and local levels that COCOBOD primarily uses with further strengthening as relevant in the context of holistic land management and reducing the risk of frequent land-use change from cocoa to mining, oil palm, rubber, and so on.

45. Project design interventions are expected to support mobilization of the private sector, essentially cocoa and chocolate companies (members of the WCF) who are by and large also signatories of the CFI, and some of them are already engaging in the pilot emissions reductions program in the High Forest Zone. The project during implementation and based on private sector interest will engage and select the entities through its procurement process. In addition, as the upcoming World Bank's Cocoa Value Chain Development Project led by the Agriculture Global Practice is developed, there will be additional opportunities for leveraging private sector engagement.

ANNEX 5: Economic and Financial Analysis

1. This annex presents the approach, data, and results of the economic and financial analyses carried out for the project's landscape restoration and ASM activities.

Economic Analysis

2. **Approach.** The analysis is based on the CBA method, using a discount rate of 6 percent (World Bank 2016[91]) and a time horizon of 30 years, to account for the project's long-term benefits. While the project generates a wide range of benefits, only some of them—mostly the tangible ones, and some ecosystem services—could be estimated in monetary terms, while the remaining are briefly described qualitatively. Landscape restoration activities are related to Components 1, 3, and 4, while ASM activities relate to parts of Components 1 and 2. The following paragraphs present the analysis for each component and then an estimate of the final result.

3. **Component 1** will support institutional strengthening for improved planning and participatory landscape management that will help support adoption in the project areas. The PV of its costs is estimated at **-US$6.9 million.** Although this component provides institutional benefits that are very important for the success of the landscape restoration activities, these cannot be quantified in monetary terms and will manifest during and beyond the project duration.

4. **Component 2** will support enhanced governance and formalization for sustainable ASM including improved compliance monitoring; efficient registration and license management; increased production, traceability, and value addition; and promotion of environmentally friendly mining practices. Benefits from investments in regulatory strengthening and institutional capacity are valued qualitatively as critical success factors for the long-term sustainability of the ASM sector. Efficiency gains from project-induced formal production and enhanced mineral recovery are presented as follows:

(a) **Activities related to increased formalization of ASM production.** The project envisages economic benefits related to increased formal production, based on the conversion of a segment of informal ASMs into licensed businesses. Given the lack of reliable data on the ASM sector, the current size of informal production is assumed equivalent to the size of formal ASM.[92] This assumption is in line with Government figures which estimate that US$2.3 billion leaves Ghana annually through illegal ASM smuggling routes.[93] Project investments in improving ASM formalization structures and licensing processes will increase the share of production which is traded through the formalized national purchase agencies, allowing a greater part of ASM sales and value addition to be retained locally. [94] The net benefits are estimated to be the margin of 2 percent of the gold price between reported

[91] The choice of the 6 percent discount rate is based on country's average growth of GDP per capita per year estimated at about 3 percent, between 2015 and 2020. World Bank. 2016. *Discounting Costs and Benefits in Economic Analysis of World Bank Projects.* World Bank.
[92] The quantum of gold assayed by the PMMC on behalf of Licensed Gold Exporting Companies (LGECs) is used as a proxy for ASM production.
[93] MLNR's presentation 'Sanitization of Illicit Mining Activities in Ghana,' made at MoFA on May 10, 2017.
[94] PMMC buys gold from ASM at a guaranteed 95–98 percent of world market price at a weekly reviewed buying price.

sales prices in Mali [95] and the price offered by PMMC. This margin will accrue to the national economy rather than rents collected by predominantly foreign illegal traders. The project assumes a gradual formalization of 2 percent of the illegal trade in Year 1 to 10 percent of the trade in Year 5.

(b) **Activities related to improved mineral recovery.** Popular mineral recovery methods, including mercury amalgamation, are associated with low mineral recovery rates and significant ecological and health costs.[96] The project aims to increase ASM productivity and enhance the rate of mineral recovery through investments in mercury-free direct smelting technologies as well as enhanced mining methods. Locally fabricated direct smelting furnaces (also known as 'sika bukyia') yield an average recovery of 98 percent as opposed to 88 percent from traditional 'open-air' amalgamation.[97] Assuming that just 2 percent of informal ASM operators[98] gradually transfer from traditional mercury amalgamation to direct smelting technologies, the analysis envisages a gradual and sustainable improvements in mineral yield beyond the project's life span.[99]

(c) **The combined benefits of the formalization and modernization efforts amount to an NPV of US$47.3 million.** This calculation relates to the benefits which can be directly monetized. Additional benefits will accrue in the form of reduced mercury pollution (air, land, and water) as a result of mercury abatement. While these benefits are real, the monetary value cannot be calculated given a variety of external factors beyond the control of the current project.

5. **Component 3** will support activities related to improved food production; cocoa improvements; community-level investments; value addition, marketing, and income diversification; and improved management in FRs and wildlife PAs. The analysis estimates the additional net benefits provided by selected representative activities ('with project') compared to the status quo ('without project'). The results are summarized as follows:

(a) **Activities related to improved food production.** The analysis is based on the net benefits per hectare for a few selected current and alternative (SLWM) practices, based on data provided by MoFA and conservative assumptions concerning expected yields in the long run. These are only on-site benefits, as they do not capture any off-site effect generated by the above practices (for example, erosion, sedimentation, and so on). Therefore, current practices provide net benefits with an average estimated PV of about US$1,600 per hectare (for example, maize and groundnut). SLWM practices usually require up-front investment costs and additional maintenance costs, but, in the long run, generate annual benefits higher than those of current practices. The PV of the SLWM net benefits has been estimated

[95] Delvedatabase.org.
[96] The total annual cost attributed to ASM-related mercury exposure is estimated at US$240 million or 0.4 percent of 2017 GDP. *Ghana Country Environmental Analysis.* WBG (April 2020).
[97] Styles, M. T., R. K. Amankwah, S. Alhassan, and R. S. Nartey. 2010. *The Identification and Testing of a Method for Mercury-free Gold Processing Artisanal and Small-scale Gold Miners in Ghana.*
Amankwah et al. 2010. *The Application of Direct Smelting of Gold Concentrates as an Alternative to Mercury Amalgamation in small-scale Gold Mining Operations in Ghana.*
[98] The total number of informal ASM operators is assumed to be equivalent to the size of the formal ASM sector.
[99] The valuation projects have an increased recovery rate of 1 percent in Year 1, 2 percent in Year 2, 3 percent in Year 3, 4 percent in Year 4, and 5 percent from Year 5 onwards.

between US$1,900 (for crop rotation) and US$3,800 per hectare (for cashew groundnut agroforestry).

6. Thus, the additional net benefits provided by the SLWM practices compared to the current ones vary between US$300 and US$2,200 per hectare. Considering a target area of 110,400 ha, the additional net benefits of these activities are estimated between US$30.3 million and US$240 million, depending on the actual mix of practices adopted, and whether farmers are able to achieve the full potential of each SLWM practice. It is conservatively assumed that the benefit provided by the project is the lowest between the two estimates, that is, US$30.3 million. This should be regarded as a crude estimate, derived from the analysis of just a few representative practices, due to the difficulty of carrying out full economic analyses for the entire range (more than 20) of current and SLWM options.

a. **Activities aimed at improving cocoa production on moribund farms.** Many cocoa producers have very low productivity farms, yielding about 400 kg per hectare or less (Abdulai et al. 2018;[100] CPIC 2019[101]). The project aims to increase this productivity and enhance the quality of cocoa beans through investments in cocoa rehabilitation, for example, establishment of temporary shade (plantain) and permanent shade to ensure agroforestry. A CBA of the proposed investments was conducted based on the following information:

- Costs include expenses related to cocoa rehabilitation (US$130 per hectare in Year 1[102]) and forgone net income from old farms during the period of rehabilitation (US$390 per hectare in Year 1,[103] gradually declining till Year 4).

- Benefits cover net returns from shade plantain (US$30 per hectare, Years 1–4[104]) and increased cocoa productivity (25 percent in Year 7, increasing to 50 percent in Year 30[105]).

[100] Abdulai, I., L. Jassogne, S. Graefe, R. Asare, P. Van Asten, P. La¨derach, et al. 2018. “Characterization of Cocoa Production, Income Diversification and Shade Tree Management Along a Climate Gradient in Ghana.” *PLoS ONE* 13 (4): e0195777.
[101] CPIC (Coalition for Private Investment in Conservation). 2019. “Conservation Investment Blueprint: Cocoa Smallholder Renovation and Rehabilitation (R&R).” *Using Climate Smart Practices to Protect the Forest and Improve Local Livelihoods.*
[102] Based on data from the Economic Analysis of Ghana’s emission reductions program for the cocoa forest mosaic landscape (Ghana’s Cocoa Forest REDD+ Program).
[103] Estimated based on the current productivity (400 kg per hectare), farmer’s price (70 percent of the global price of US$2.3 per kg), and current production costs (40 percent of the total revenue, based on Neizer et al. 2020). (US$400 × US$2.3 × 70 percent) × (1–40 percent) = US$390.
[104] Estimated based on Neizer, K., K. Frimpong-Anin, and P. Mintah. 2020. “Analyzing the Cost and Returns of Smallholder Farmers: A Case of Asante Akim South in Ghana.” *Sustainable Agriculture Research* 9 (2): 2020.
[105] Based on data from the Economic Analysis of Ghana’s emission reductions program for the cocoa forest mosaic landscape (Ghana’s Cocoa Forest REDD+ Program).

7. Based on the above, the NPV of the activities related to improved cocoa production is estimated at US$1,400 per hectare. Considering a target area of about 2,000 ha, the NPV of cocoa improvement investments reaches US$2.8 million.

(a) **Community-level investments.** Among the wide variety of activities proposed by this subcomponent, the economic analysis focuses on three types of investments.

- Silvo-pastoral activities, for example, FMNR. Westerberg et al. (2019)[106] demonstrates that in Ghana, passing from status quo to FMNR requires additional costs in the first few years (for example, pruning, thinning, land preparation, and so on); however, the flow of income from both trees and crop revenues increases rather rapidly. Figure 5.1 shows the expected additional net benefits from these investments over 30 years. Considering a target area of 16,000 ha, the NPV of additional benefits from moving from conventional agriculture to FMNR is estimated at US$19.8 million.
- **Rangeland improvements.** Using results of existing studies in Ghana (Fynn et al. 2014[107]), the additional net benefits from rangeland improvement compared to the status quo are estimated at about US$20 per hectare per year. On the target area of 1,500 ha, the NPV of these benefits over 30 years attains US$4.7 million.
- **Riparian restoration.** Planting riparian vegetation along rivers will increase the value of ecosystem services (particularly protection against sedimentation and other tangible benefits). An analysis of costs and benefits on 5,800 ha indicates an NPV of US$0.3 million.

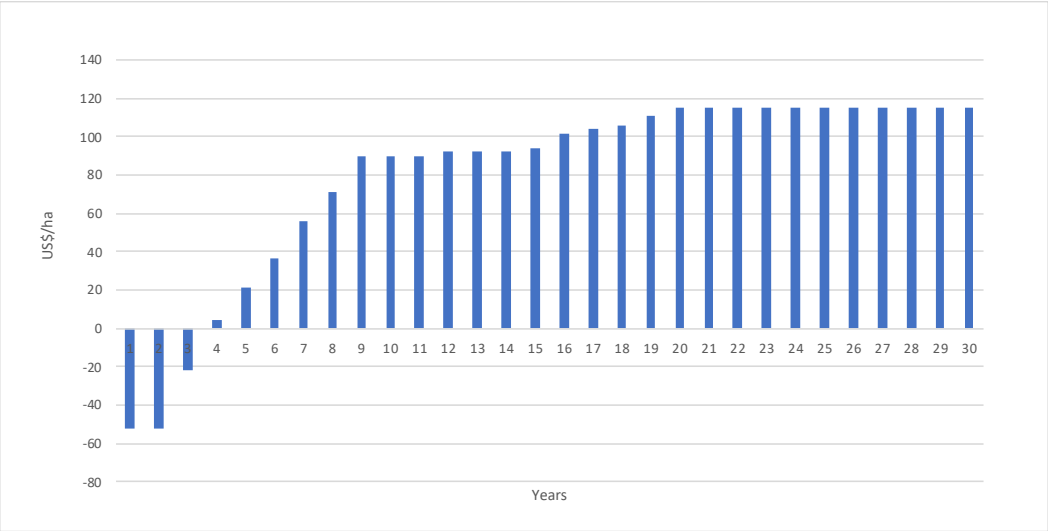
(b) **Value addition, improved market access and income diversification**. Ghana is affected by substantial post-harvest losses throughout the entire value chains of commodities such as maize, cocoa, cashew, and so on. Studies on maize indicate that these losses are equivalent to about 5 percent of the average household income (Kumar and Kalita 2017).[108] The project will provide the following:

- **Improved value addition through reduced post-harvest losses.** The valuation assumes an average household income of about US$3,500 per year,[109] a 25 percent reduction of losses, and about 13,400 benefitting households.[110] A CBA of these activities indicates an NPV of US$0.7 million.
- **Income diversification.** The project will provide inputs to promote alternative livelihoods, thus enhancing the benefits of poor communities. Assuming a 10 percent

[106] Westerberg, V., A. Doku, and L. Damnyag. 2019. *The Case for Farmer Managed Natural Regeneration (FMNR) in the Upper West Region of Ghana.*
[107] Fynn, K. E., M. M. Fusheini, K. Oppong-Anane, D. P. K. Amegashie, E. C. Timpong-Jones, and F.K. Fianu. 2014. "Cost-benefit Analysis and Problems Associated with Production of Verano Seed by Smallholder Livestock Farmers in Ghana." *Livestock Research for Rural Development* 26 (5).
[108] Kumar, D., and P. Kalita. 2017. Reducing Postharvest Losses During Storage of Grain Crops to Strengthen Food Security in Developing Countries. *Foods* 6 (8). doi:10.3390/foods6010008.
[109] Average income per household in Northern Region and Southern Region, based on discussions with the GoG.
[110] Estimated as 50 percent × 133,738 farmers / 5 people per household.

expected increase in income,[111] a CBA of these activities provides an NPV of US$4.2 million.

Figure 5.1. Additional Net Benefits When Passing from Conventional Agriculture to Silvo-pastoral Activities (FMNR) in Ghana



Source: Westerberg et al. (2019).

(c) **Investments in FRs and wildlife PAs.** The valuation of these benefits is based on forest data and assumptions used in the EX-ACT model and confirmed with the GoG. Therefore, the project is expected to (i) reduce deforestation on an area of 694,821 ha of CREMA, (ii) reduce degradation on a forest area of 839,603 ha of reserves and NPs (Acheampong et al. 2019), (iii) increase forest benefits due to reforesting about 3,814 ha, and (iv) increase communities' income from alternative income generating activities. A CBA related to the above activities reveals the following:

- **Costs.** The costs related to this component include investment costs (for example, forest planning, fire prevention, enrichment planting in FRs, and improved management of PAs), operation and maintenance costs, and other opportunity costs (that is, forgone agricultural income in restored forest areas).
- **Benefits.** The project generates benefits related to reduced deforestation, estimated based on the expected reduced deforested area,[112] and an average value of forest benefits in Ghana;[113] reduced degradation, calculated based on the degraded area (839,603 ha), and a gradual increase of forest benefits, due to their rehabilitation; reforestation, estimated based on the reforested area (3,814 ha), an expected survival

[111] Based on the economic analysis of Ghana Forest Investment Program: Enhancing Natural Forest and Agroforest Landscapes Project.
[112] The EX-ACT model considers that the project is expected to reduce deforestation by 100 percent starting from Year 4.
[113] The value of a degraded forest in Ghana is roughly estimated at US$55 per hectare, or half of a forest in good condition. Based on Ghana CEA, it is conservatively assumed that deforestation leads to a complete loss of extractive benefits and half of that of ecosystem services, totaling US$48 per hectare per year.

rate of 75 percent;[114] and enhanced income from support to livelihoods activities (see Excel for detailed calculations).

8. Based on the above, the NPV related to the investments in FRs and wildlife PAs is estimated at US$93.6 million. In addition, Component 3 supports other activities for which benefits could not be estimated separately (for example, planning and capacity, resource mobilization, and so on); the PV of their costs has been assessed at −US$5.7 million. Overall, the net benefits generated by Component 3 are estimated at US$150.7 million. Component 4 supports the management and implementation of the above activities. The PV of its costs is estimated at −US$4.6 million.

9. In conclusion, the analysis of the landscape restoration activities proposed by the project provides an NPV of US$139.2 million and an IRR of 19 percent (table 5.1). Additionally, the analysis of the proposed ASM activities estimates an NPV of US$47.3 million and an IRR of 26 percent (table 5.2). Overall, the project shows a total NPV of US$186.5 million and an IRR of 20 percent.[115]

Table 5.1. Summary of the Estimated Net Benefits Related to the Landscape Restoration Activities (US$, millions)

Years	**1**	**2**	**3**	**4**	**…**	**28**	**29**	**30**	**PV of Net Benefits**
Component 1	−4.2	−2.3	−0.6	−0.2	…	0.0	0.0	0.0	−6.9
Component 3	−14.9	−10.3	−6.1	−1.0	…	30.8	31.4	32.1	150.7
Component 4	−1.7	−0.8	−1.0	−0.8	…	0.0	0.0	0.0	−4.6
Total net benefits	**−20.8**	**−13.4**	**−7.7**	**−2.0**	**…**	**30.8**	**31.4**	**32.1**	**139.2**
IRR									**19%**

Note: Totals might not add up exactly due to rounding.

Table 5.2. Summary of the Estimated Net Benefits Related to the ASM Activities (US$, millions)

Years	**1**	**2**	**3**	**4**	**…**	**28**	**29**	**30**	**PV of Net Benefits**
Component 2	−2.5	−3.0	−3.4	−3.8	…	6.3	6.3	6.3	47.3
IRR									**26%**

Financial Analysis

10. It is important to assess the financial viability of the project's activities, to ensure that communities have the incentive to continue them also after the end of the project. An analysis of the financial net returns for selected categories of activities indicates the following:

- For activities related to food production, maize provides net financial benefits[116] with an average PV of about US$1,650 per hectare. Alternative SLWM practices would provide net financial benefits with a PV between US$2,400 per hectare (for crop rotation) and US$3,800

[114] Forestry Commission/National REDD+ Secretariat. 2017. Ghana's National Forest Reference Level.
[115] A sensitivity analysis suggests the project would have positive net returns also for an increase in discount rates (NPV of US$83 million for r = 10 percent); and for a decrease in the assumed reduction of deforestation rate due to the project in CREMA (NPV of US$100 million for an assumed avoided deforestation in CREMAs of 10 percent).
[116] The difference between the financial and economic on-site benefits consists in the subsidies provided by the Government to seeds and fertilizers (50 percent of the cost of seeds and fertilizer for maize).

per hectare (for cashew soybean agroforestry).[117] In addition, the incentives provided by the project during the first three years cover the up-front investment costs that would otherwise be burden for the beneficiaries.[118] Similar to the economic analysis, these are crude estimates, derived from the analysis of just a few representative practices, due to the difficulty of carrying out full financial analyses for the entire range of current and SLWM options.

- For the activities related to mango tree planting, the project will pay cash incentives of up to US$100 per hectare, contingent on 75 percent of trees surviving after one year. A CBA of such a payment scheme, conducted by Dean et al. (2018),[119] indicated additional net benefits for the farmer, with a PV ranging from US$2,800 per hectare (for a US$50 payment, survival rate 61 percent) to US$3,800 per hectare (for a US$100 payment, survival rate 81 percent), compared to the current land uses (maize).
- For the activities related to forests, the project will provide livelihoods support for activity diversification, to release pressure on forests. Based on communications with the Government, the net benefit to farmers from adopting livelihoods support (US$350 per household per year[120]) would be higher than what they currently receive from deforesting for agriculture (US$310 per household per year for maize). It is expected that other factors will contribute to releasing pressure on forests, for example, engagements with admitted settlements and farm owners to limit their expansion, and the establishment and reconstitution of the CRMCs that will play a crucial role in the protection of forest resources.
- For the activities related to ASM formalization and improved formal production, the project will increase the Government's withholding tax earnings by US$88 million, contingent on a gradual conversion of a fraction of the informal ASM trade into formal operators.[121] Given that the valuation employs conservative gold prices[122] and assumes a steady withholding tax of 3 percent[123] over the 30-year horizon, the project's financial benefits could be even higher.

[117] These estimates include the incentives provided for the first three years by the project.
[118] Recent communications with the GoG indicated that the permanency of adopting SLWM practices through the Sustainable Land and Water Management Project (P098538) is about 90 percent among the project's beneficiaries.
[119] Dean, W., C. Edelman, J. Kane, K. Pepp, and S. Xu. 2018. *Cost-Benefit Analysis of a Payment for Ecosystem Services Program in Northern Ghana.* University of Wisconsin-Madison/World Bank.
[120] Estimated based on the average income in rural areas of the project (US$3,500 per household, based on Ghana Living Standard Survey), and a 10 percent increase in income due to introduction of livelihood activities (based on the economic analysis of Ghana FIP).
[121] The valuation projects that the project will increase ASM formalization by 2 percent in Year 1, 4 percent in Year 2, 6 percent in Year 3, 8 percent in Year 4, and 10 percent in Year 5 and beyond.
[122] Gold price forecasts sourced from the *Commodity Markets Outlook – October 2020*. WBG (2020).
[123] The current income tax structure for ASM is a 3 percent withholding tax for unprocessed precious minerals. Ghana Revenue Authority. *Withholding Tax Guide* (2018).

ANNEX 6: Ghana Country Program Adjustments to COVID-19

1. **COVID impacts.** The social and economic impact of the COVID-19 pandemic on Ghana has been severe. Following detection of the first COVID-19 case on March 12, 2020, Ghana has seen constant increases in cases and as of June 16, 2021, has recorded 94,493 confirmed cases and 789 fatalities, with a mortality rate of 0.83 percent. Economic growth slowed from 6.5 percent in 2019 to 1.04 percent in 2020, as a result of a decline in external demand, changes in terms of trade, and lower inflows from foreign direct investments and tourism. Poverty (measured by the international poverty line, US$1.9 purchasing power parity) declined from 13.0 percent to 11.1 percent between 2016 and 2019 as a result of strong GDP per capita growth. The pandemic and lockdown resulted in significant job and income losses of 70 percent and 78 percent, respectively. Households that were dependent on non-farm businesses were the most adversely affected, compared to those with incomes from the Government, such as pensioners and safety net beneficiaries. The fiscal deficit and gross financing needs have increased substantially, as the fiscal deficit reached 11.7 percent of GDP for 2020 (according to the government) resulting in an increase in public debt from its 2019 level of 76.1 percent of GDP to 78.7 percent in 2020.[124] To bridge the fiscal and balance of payments gaps caused by the pandemic, the GoG obtained emergency support from the International Monetary Fund and other partners. While the medium-term (2021–2023) recovery from the COVID-19-related shocks is uncertain, the rebound will likely be modest as trade, investment, and tourism activities may not pick-up immediately to pre-crisis levels. Growth is expected to average 4.5 percent over the medium term in the baseline scenario of a depressed global economy.[125]

2. **Government response.** The Government responded quickly to mitigate and contain the health and economic impact of the COVID-19 pandemic. Shortly after the outbreak of COVID-19 in March 2020, the GoG imposed restrictions including school closures, cancellation of religious and other mass gatherings, border closures, and quarantine for all travelers. The GoG has progressively lifted the various restrictions: the country's international airport Kotoka was reopened in September 2020 (while land borders remained close to travelers); restrictions on social gatherings (that is religious meetings, funerals, and weddings) were lifted at the end of 2020, and all schools reopened on January 15, 2021. However, restrictions on social gatherings were reinstated after Ghana experienced a surge in infections and fatalities in January 2021.

3. **The Government has aimed to contain the disease, focusing their response on five strategic pillars:** (a) stop importing COVID-19 cases; (b) contain the virus; (c) stop community spread; (d) provide adequate care for the sick; and (e) limit social interaction. The Government approved a US$100 million COVID-19 Emergency Preparedness and Response Plan (EPRP) on March 16, 2020. The goal of the EPRP is to improve existing preparedness and response structures and mechanisms for early detection and effective management of a COVID-19 outbreak in Ghana. The Government further announced a Coronavirus Alleviation Program on March 30, 2020, to support affected households and companies**.** The Coronavirus Alleviation Program is funded with GHS 1 billion (US$172 million or about 0.2 percent of GDP and is intended for two streams of support: a poverty and social program (GHS 400 million or US$69 million) that distributes in-kind support, including food, to the 400,000 most vulnerable households and a business support program worth GHS 600 million (US$103 million or about 0.1 percent of GDP) for the promotion of selected industries (for example, pharmaceutical sector supplying COVID-19 drugs and

[124] Ministry of Finance data.
[125] World Bank Estimates.

equipment) and the support of medium, small, and micro enterprises and employment through direct financing and the creation of guarantees and first-loss instruments. During the July 2020 mid-year budget review, the Government laid out the parameters for a COVID-19 Alleviation and Revitalization of Enterprises Support (Ghana CARES) Obatanpa[126] Programme. CARES envisages a program of GHS 100 billion in two phases: a stabilization phase from July to December 2020 to ensure food security, protect businesses and worker incomes, strengthen the health system, attract private investments, and support Ghanaian business, and a medium-term revitalization phase to accelerate the Ghana Beyond Aid agenda through improvements in business regulations; digitization to improve quality and transparency of public service delivery; and expansion of access to finance for Ghanaian business, skills training, and energy sector reform.

4. **Adjustments to the World Bank Program.** Ghana's Country Partnership Strategy (FY13–FY16)[127] expired in 2018. A new CPF is under preparation and will be delivered in early FY22, in line with the deferral of CPFs as set out in the WBG (WBG) COVID-19 Response Framework Approach Paper. In the meantime, the WBG has reviewed and adjusted its ongoing program and pipeline to ensure an immediate focus on supporting COVID-19 relief while pipeline projects are being planned with a strong emphasis on recovery.

5. **Saving lives.** Health support to save lives is focused on immediate containment of the outbreak and preparing for a more severe outbreak. The World Bank has allocated US$435.8 million to the COVID-19 health response by the end of Q4 FY21. This includes reallocation of US$2.5 million of uncommitted funds from the Maternal, Child Health, and Nutrition Project (P145792); three COVID-19 Emergency Preparedness and Response Projects (US$35 million - Parent: P173788, US$130-million Additional Financing P174839, and US$2000million Second Additional Financing P176485) approved in April, November 2020, and June 2021 respectively; activation of a US$65-million CERC on the Greater Accra Resilient and Integrated Development Project (P164330), triggered on March 26, 2020; and a US$3.3-million payment from the Pandemic Emergency Facility. This package aimed to strengthen coordination of preparedness activities across the country; upgrade health facilities and points of entry; strengthen national capacity for laboratory surveillance and diagnosis, case management, contact tracing, and infection prevention and control; ensure at least a minimum level of health and testing logistics are in place; and increase public awareness of COVID-19 risk mitigation and response measures, and support vaccine acquisition and deployment. Further, the ongoing Greater Accra Metropolitan Area Water and Sanitation Project (P119064) reprogrammed US$200,000 to support health centers with handwashing facilities and water tankers, and its Additional Financing (P171620), approved in September 2020, will increase access to water supply in vulnerable urban areas.

6. **Protecting the poor and the vulnerable.** To provide immediate relief to the poor and vulnerable, the Ghana Productive Safety Nets Project (P164603) was restructured to (a) accelerate payments of the national cash transfer program to the poor; (b) adjust payments to beneficiaries of the Labor-Intensive Public Works Program; and (c) provide benefits to new already-identified needy groups, among other activities, more than US$13 million to 332,000 households and 23,000 beneficiaries as of end-2020. A new project, the Ghana Productive Safety Net Project-2 (P175588), was approved in the amount of US$100 million in April 2021, to expand and enhance social safety nets that improve the incomes and productivity

[126] Meaning 'Good Mother'.
[127] The World Bank Group's Country Partnership Strategy for the Republic of Ghana for the Period FY13-FY16 (Report #76369-GH) discussed by the Executive Directors on August 20, 2013, as extended by the November 2016 Performance and Learning Review.

of the poor. Projects in the education sector, including the Ghana Accountability for Learning Outcomes (GALOP: P165557), have been adjusted to add activities for continued learning, recovery, and resilience in basic education. The Additional Finance to GALOP was processed in July 2020 for a total of US$40.3 million to strengthen equity and accountability in the sector targeting the most vulnerable children and enabling continuity of learning for basic education during COVID-19. In support of food security, several operations reprogrammed their project resources in support of vulnerable households. The SLWMP (P098538) provided ongoing support to rural and forest fringe communities in support of food security and tree-growing activities. The Commercial Agriculture Project (P114264) provided US$1.8 million to purchase 700 threshers for farmers, distributed protective equipment for irrigation sites, and ran a COVID-19 awareness radio program reaching 50,000 persons. The Peri-Urban Project (P150369) disbursed US$1.35 million to close to 200 farmers in grant support for land preparation and post-harvest management and conducted community sensitization programs on COVID-19.

7. **Ensuring sustainable business growth and job creation.** The US$200 million Jobs and Skills Project (P166996), approved in June 2020, will contribute to skills development and job creation, improve the enabling business environment, and provide direct support for entrepreneurship and micro and small enterprise growth. The Ghana Economic Transformation Project (P166539) and the Ghana Tourism Development Project (P164211) reprogrammed funds to help firms recover from the crisis, such as small and medium enterprise (SME) grants and technical assistance for growth potential firms, including tourism SMEs, to enhance their productivity and competitiveness and to enable continued operations in the short term. The Ghana Economic Transformation Project (P166539) will also support longer-term recovery and resilience building within the private sector. The Ghana Development Finance Project (P169742), approved in October 2020, supports economic recovery through a line of credit (approximately US$175 million) and partial credit guarantee (approximately US$60 million) targeting SME development. IFC has put in place an emergency liquidity facility for existing banking clients, for trade finance and working capital (US$50 million). IFC committed US$37 million in June 2020 to two manufacturing companies (steel and ceramics) to help support job creation. In addition, IFC is offering training to banks to improve their financial resilience during the crisis and is working to expand digital finance services.

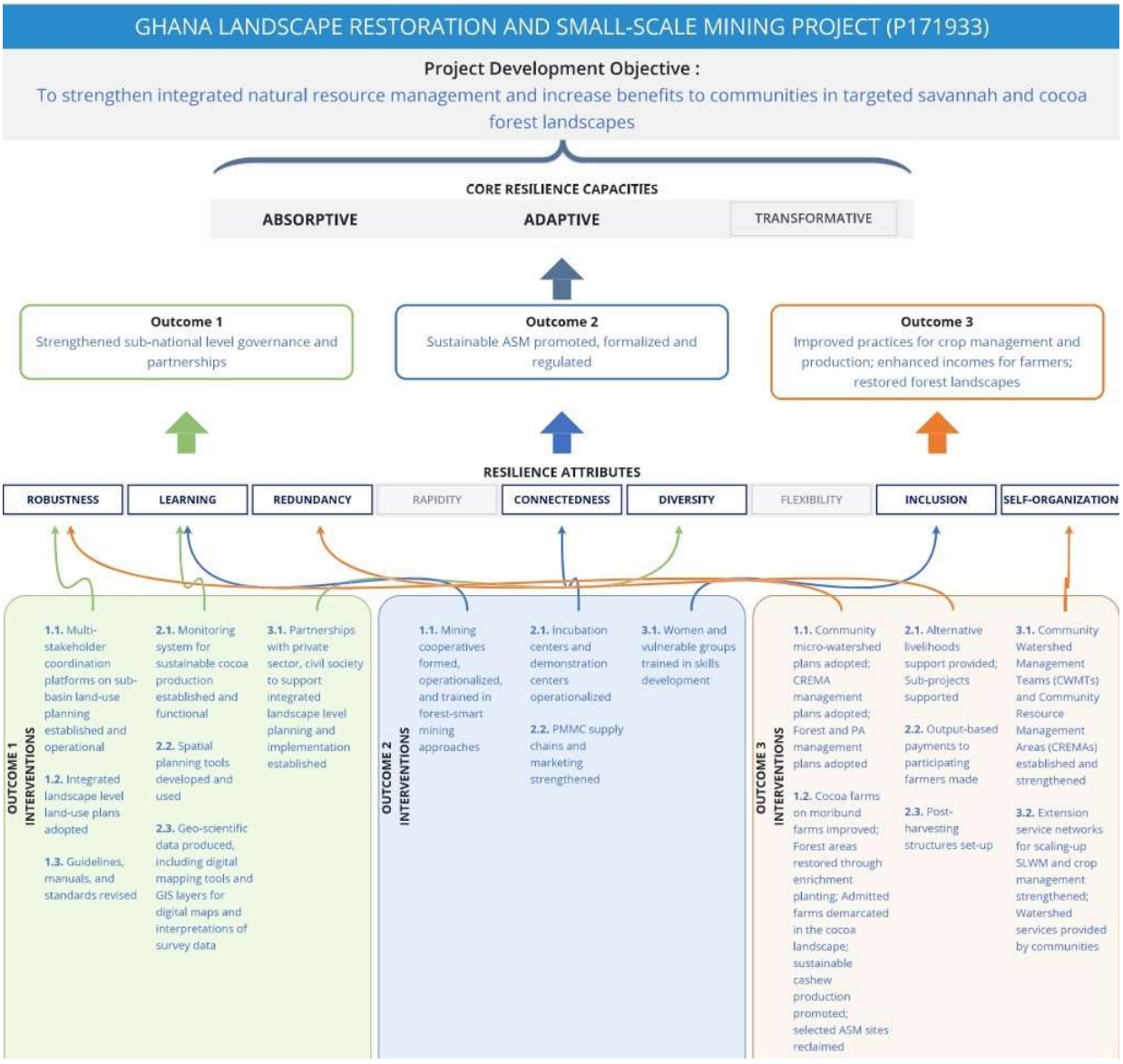
8. **Support to policies and institutions is focused both on supporting efforts to improve fiscal space and resilient recovery.** Several operations are being refocused to ensure institutional responsiveness to the COVID-19 pandemic. The Ghana Economic Management Strengthening Project (P152171) will accelerate activities to improve business intelligence systems including the establishment of a Data Warehouse. The Public Sector Reform for Results Project (P164665) will strengthen digital service delivery capacity through reducing the time required to register vehicles and accelerating mobile and web-based applications to improve Birth and Death Registry digital service delivery across Ghana. Ghana's financially constrained energy sector has placed a barrier upon fiscal space needed to fully address the COVID-19 crisis and plan for longer-term recovery. The World Bank is supporting reforms in this area, including through the ongoing Energy Sector Development Project and through the forthcoming Program-for-Results Energy Sector Operation planned for FY22. Ghana is subject to the Sustainable Development Financing Policy and its Performance and Policy Actions will focus on domestic resource management, state-owned enterprises' debt transparency, and rationalizing of state-owned enterprise investments.

9. **Collaboration with other partners.** The WBG is working closely with other partners to support the COVID-19 response in Ghana. A COVID-19 donor mapping tool indicates total health donor partners' contribution of US$265 million, of which 89 percent is provided by the World Bank. Other organizations

are providing support through technical assistance, among other things. UN agencies are executing the US$3.3 million allocated to Ghana by the World Bank Pandemic Emergency Facility. The World Bank is coordinating support to the macroeconomic area closely with the International Monetary Fund, which provided US$1 billion in support from the Rapid Credit Facility in May 2020. Finally, the World Bank has been active in several Thematic Working Groups that gather development partners and the Government on a regular basis (that is, health, education, social protection, and energy) and is taking an active role in the two regular platforms of ensuring DPs dialogue and coordination - Heads of Commissions and Heads of Missions.

ANNEX 7: Project Resilience Map

1. This Resilience Pathway Map has been generated using the World Bank's Resilience Booster tool to inform and consider resilience into the design of the project. The pathway map offers a 'snapshot' of the project's approach to resilience building



ANNEX 8: Map of Project Area

GHANA LANDSCAPE RESTORATION AND SMALL-SCALE MINING PROJECT (GLRSSMP)
ECOLOGICAL ZONES AND SUB-BASINS