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Report No: PAD4673

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A PROPOSED IDA GRANT

IN THE AMOUNT OF SDR 15.8 MILLION (US$22 MILLION EQUIVALENT)

AND A PROPOSED CRISIS RESPONSE WINDOW GRANT

IN THE AMOUNT OF SDR 21.6 MILLION (US$30 MILLION EQUIVALENT)

AND A PROPOSED CRISIS RESPONSE WINDOW EARLY RESPONSE FINANCING GRANT

IN THE AMOUNT OF SDR 35.9 MILLION (US$50 MILLION EQUIVALENT)

TO THE

REPUBLIC OF HAITI

FOR AN

EMERGENCY RESILIENT AGRICULTURE FOR FOOD SECURITY PROJECT

March 4, 2022

Agriculture And Food Global Practice
Latin America And Caribbean Region

CURRENCY EQUIVALENTS

Exchange Rate Effective January 31, 2022

Currency Unit =	Haitian Gourde (HTG)
HTG 102.02 =	US$1
US$ 1.39154 =	SDR 1

FISCAL YEAR
October 1 - September 30

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ABBREVIATIONS AND ACRONYMS

AEZ	Agro-ecological zone
AF	Additional Financing
ASPIRE	Adaptive Social Protection for Increased Resilience Project
BCA	Agricultural Credit Bureau (*Bureau de Crédit Agricole*)
BRH	Central Bank of Haiti (*Banque de la République d'Haïti*)
CEOS	Committee on Earth Observation Satellites
CERC	Contingent Emergency Response Component
CIAT	Interministerial Committee for Spatial Planning (*Comité Interministériel d'Aménagement du Territoire*)
CNIGS	National Center for Geo-Spatial Information of the Ministry of Planning (*Centre National d'Information Géo-Spatiale*)
CNSA	National Coordination of Food Security (*Coordination Nationale de la Sécurité Alimentaire*)
COVID-19	Coronavirus
CPF	Country Partnership Framework
CRW	Crisis Response Window
DA	Designated Account
DFIL	Disbursement and Financial Information Letter
DIA	Directorate for Agricultural Infrastructure (*Direction des Infrastructures Agricoles*)
DPs	Development Partners
DRM	Disaster Risk Management
EFA	Economic and Financial Analysis
EFSA	Emergency Food Security Assessment
EMMUS	Survey on Mortality, Morbidity and Use of Services (*Enquête Mortalité, Morbidité et Utilisation des Services*)
ENUSAN	National Emergency Survey on Food and Nutritional Security (*Enquête Nationale d'Urgence sur la Sécurité Alimentaire et Nutritionnelle*)
EO	Earth Observation
ERF	Early Response Financing
ERR	Economic Rate of Return
ESCP	Environmental and Social Commitment Plan
ESMF	Environmental and Social Management Framework
EX-ACT	Ex-Ante Carbon-Balance Tool
FAO	Food and Agriculture Organization
FCV	Fragility, Conflict and Violence
FEWS NET	Famine Early Warning Systems Network
FIES	Food Insecurity Experience Scale
FM	Financial Management
FS	Food Security
GAFSP	Global Agriculture and Food Security Program
GAM	Global Acute Malnutrition
GDP	Gross Domestic Product
GEMS	Geo-enabling Initiative for Monitoring and Supervision

GHG	Greenhouse Gas
GoH	Government of Haiti
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
HH	Households
HTG	Haitian Gourdes
ICR	Implementation Completion and Results Report
ICT	Information and Communication Technology
IDA	International Development Association
IDB	Interamerican Development Bank
IFAD	International Fund for Agricultural Development
IFR	Interim Financial Report
IPC	Integrated Food Security Phase Classification
IPF	Investment Project Financing
ISM	Implementation Support Mission
LMP	Labor Management Procedures
M&E	Monitoring and Evaluation
MARNDR	Ministry of Agriculture, Natural Resources and Rural Development (*Ministère de l'Agriculture, des Ressources Naturelles et du Développement Rural*)
MAST	Ministry of Social Affairs and Labor (*Ministère des Affaires Sociales et du Travail*)
MDE	Ministry of Environment (*Ministère de l'Environnement*)
MDUR	Municipal Development and Urban Resilience Project
MFB	Minimum Food Basket
MMI	Modified Mercalli Intensity Scale
MSPP	Ministry of Public Health and Population (*Ministère de la Santé Publique et de la Population*)
MTPTC	Ministry of Public Works, Transport and Communication (*Ministère de Travaux Publics, des Transports et de la Communication*)
NGO	Non-Governmental Organization
NPF	New Procurement Framework
NPV	Net Present Value
NSA	Nutrition Smart Agriculture
NSPPP	National Social Protection and Promotion Policy
OHS	Occupational Health and Safety
OP	Operational Policy
PARSA	Resilient Agriculture for Food Security Project (*Project d'Agriculture Résiliente pour la Sécurité Alimentaire*)
PBCs	Performance-Based Conditions
PDNA	Post-Disaster Needs Assessment
PDO	Project Development Objective
PIU	Project Implementation Unit
PLR	Performance and Learning Review
PNIA	National Agricultural Investment Plan (*Plan National d'Investissement Agricole*)
POM	Project Operational Manual
PPSD	Project Procurement Strategy for Development

PREPOC	Post Covid-19 Relaunching Plan (*Plan de Relance Economique Post Covid-19*)
PS	Procurement Specialist
PSC	Project Steering Committee
PSNSSANH	National Policy and Strategies for Sovereignty and Food Security and for Nutrition in Haiti (*Politique et Stratégies Nationales de Souveraineté et Sécurité Alimentaire et de Nutrition en Haïti*)
PTBA	Annual Work Plan and Budget (*Plan de Travail et du Budget Annuel*)
RESEPAG II	Second Strengthening Agriculture Public Services Project
RF	Results Framework
RPL	Resilient Productive Landscape Project
SAMEPA	Rapid Assessment of the Impact of COVID-19 on Food Security, Livelihoods and Agricultural Production (*Évaluation Rapide de l'Impact COVID-19 sur la Sécurité Alimentaire, Moyens d'Existence et Production Agricole*)
SEA/SH	Sexual Exploitation and Abuse and Sexual Harassment
SEP	Stakeholder Engagement Plan
SERTIT	Regional Image Processing and Remote Sensing Service of the University of Strasbourg (*Service Régionale de Traitement d'Image et de Télédétection*)
SIMAST	Information System of the Ministry of Social Affairs and Labor (*Système d'Information du Ministère des Affaires Sociales et du Travail*)
SOE	Statement of Expenditures
STEP	Systematic Tracking of Exchanges in Procurement
tCO_2e	Tons of carbon dioxide equivalent
TEGFS	Technical Expert Group on Food Security
TOC	Theory of Change
ToR	Terms of Reference
UEP	Study and Programming Unit (*Unité d'Études et de Programmation*)
UNICEF	United Nations Children's Fund
UNOPS	United Nations Office for Project Services
USAI	Agricultural Statistics and Informatics Unit (*Unité de Statistiques Agricoles et Informatique*)
USAID	United States Agency for International Development
VAM	Vulnerability Analysis and Mapping
WB	World Bank
WBG	World Bank Group
WFP	World Food Programme

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name		
Haiti	Emergency Resilient Agriculture for Food Security Project		
Project ID	Financing Instrument	Environmental and Social Risk Classification	Process
P177072	Investment Project Financing	Substantial	Urgent Need or Capacity Constraints (FCC)

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
17-Mar-2022	26-Feb-2027

Bank/IFC Collaboration

No

Proposed Development Objective(s)

The Project Development Objective (PDOs) is to support project beneficiaries' access to nutritious food, and increase climate- and nutrition-smart agricultural production, including in earthquake-affected areas.

Components

Component Name	Cost (US$, millions)
Support project beneficiaries' access to nutritious food	22.00
Increase climate- and nutrition-smart agricultural production	38.00
Promote access to nutritious food and increase climate- and nutrition-smart agricultural production in earthquake-affected areas	30.00
Project management, monitoring and evaluation, and studies	12.00
Contingent Emergency Response Component (CERC)	0.00

Organizations

Borrower:	Ministry of Economy and Finance
Implementing Agency:	Ministry of Agriculture, Natural Resources and Rural Development

PROJECT FINANCING DATA (US$, Millions)

SUMMARY

Total Project Cost	102.00
Total Financing	102.00
of which IBRD/IDA	102.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	102.00
IDA Grant	102.00

IDA Resources (in US$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
Haiti	0.00	102.00	0.00	102.00

National PBA	0.00	22.00	0.00	22.00
Crisis Response Window (CRW)	0.00	80.00	0.00	80.00
Total	**0.00**	**102.00**	**0.00**	**102.00**

Expected Disbursements (in US$, Millions)

WB Fiscal Year	2022	2023	2024	2025	2026	2027
Annual	3.00	24.00	31.00	23.00	12.00	9.00
Cumulative	3.00	27.00	58.00	81.00	93.00	102.00

INSTITUTIONAL DATA

Practice Area (Lead)

Agriculture and Food

Contributing Practice Areas

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	High
2. Macroeconomic	Substantial
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Moderate
5. Institutional Capacity for Implementation and Sustainability	Moderate
6. Fiduciary	Substantial
7. Environment and Social	Substantial
8. Stakeholders	Moderate
9. Other	High

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	Not Currently 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. Article III, Clause 3.01. The Recipient shall carry out the Project, through MARNDR, in accordance with the provisions of Article V of the General Conditions and Schedule 2 to the Finance Agreement.

Sections and Description

2. Grant Agreement, Schedule 2, Section I. A. 3. The Recipient shall maintain, throughout Project implementation, the Project Implementation Unit ("PIU"), under MARNDR, to be responsible for day-to-day execution, coordination and implementation of activities under the Project. The Recipient shall take all actions, including the provision of funding, personnel including a project coordinator, a procurement specialist, a financial management specialist, an environmental specialist, to be recruited no later than two (2) months after the Effective Date, or any later date agreed by the Association, a social development specialist, to be recruited no later than two (2) months after the Effective Date, or any later date agreed by the Association, a gender specialist, to be recruited no later than two (2) months after the Effective Date, or any later date agreed by the Association, an accountant, to be recruited no later than two (2) months after the Effective Date, or any later date agreed by the Association and, an external auditor, to be recruited no later than four (4) months after the Effective Date, or any later date agreed by the Association), and other resources satisfactory to the Association, to enable the PIU to perform said functions, as further detailed in the POM.

Sections and Description

3. Grant Agreement, Schedule 2, Section I. C. 1. The Recipient shall carry out the Project in accordance with Annual Work Plans to be prepared and furnished to the Association no later than October 31 of each calendar year during the implementation of the Project

Sections and Description

4. Grant Agreement, Schedule 2, Section I. F. The Recipient shall ensure that not later than six (6) months after the Effective Date, a Preparedness Plan is prepared and adopted in form and substance acceptable to the Association.

Sections and Description

5. Grant Agreement, Schedule 2, Section II. The Recipient, through MARNDR, shall furnish to the Association each Project Report not later than forty-five (45) days after the end of each calendar semester, covering the calendar semester.

Conditions

Type	Financing source	Description
Disbursement	IBRD/IDA	1. Grant Agreement; Schedule 2, Section III, Clause B.1 (b). No withdrawals shall be made for payments under Category (1) unless and until the Recipient has adopted the POM in form and substance satisfactory to the Association.

Type	Financing source	Description
Disbursement	IBRD/IDA	2. Grant Agreement; Schedule 2, Section III, Clause B.1 (c). No withdrawals shall be made for Emergency Expenditures under Category (3), unless and until the Association is satisfied, and notified the Recipient of its satisfaction, that all of the standard conditions applicable to the Contingency Emergency Response Component of the Project have been met.

I. STRATEGIC CONTEXT

A. Country Context

1. **Haiti remains locked in a cycle of low growth and limited poverty reduction.** The third-largest Caribbean nation by area (27,560 square kilometers) and largest by population (11.3 million), Haiti benefits from proximity and access to high-income markets in North America, preferential trade agreements, a young labor force, a dynamic diaspora, and substantial geographic, historical, and cultural assets, along with untapped potential in agribusiness, light manufacturing, and tourism. In spite of these opportunities, Haiti remains the poorest country in the Western Hemisphere and one of the poorest in the world, with a Gross Domestic Product (GDP) per capita of US$1,177 in 2020. Growth has stagnated since 2017, contracting by 3.3 percent in 2020, even as the cost of the Minimum Food Basket (MFB) increased by 25 percent in the year to September 2020, eroding households' purchasing power.[1] As a result, poverty has risen sharply in recent years, from an estimated 47 percent in 2018 to 51 percent of the population in 2020.[2] The vast majority of extremely poor households are concentrated in rural areas, where 75 percent of the population live in poverty and 27 percent live in extreme poverty.[3]

2. **Political instability and institutional fragility have undermined economic growth in Haiti.** The country's political crisis intensified in 2018 with large, violent demonstrations against fuel shortages, cost of living increases and corruption allegations, culminating in the complete paralysis of the economy (*'Peyi Lòk'*)[4] in 2019, as well as a sharp spike in gang violence.[5] In the absence of elections to replace legislators whose terms had expired, President Jovenel Moïse ruled by decree after January 2020,[6] until he was assassinated on July 7, 2021, plunging the country further into uncertainty. Political instability and related institutional fragility have resulted in persistent poverty and exclusion for most of Haiti's population.

3. **Haiti is one of the countries with the highest exposures in the world to multiple natural hazards, and risks have increased with climate change**. More than 93 percent of the country's surface and more than 96 percent of its population are exposed to two or more hazards. The human and economic impacts of disasters have been severe: damages and losses associated with hydrometeorological events alone shaved off almost 2 percent of GDP per year during 1961-2012.[7] Climate change is expected to further increase this vulnerability, including via a projected 50 percent reduction in precipitation and a projected 4°C rise in temperatures by 2080, resulting in more frequent and more extreme climate events such as droughts and floods, reduced agricultural productivity, a higher incidence of climate-sensitive diseases (dengue, malaria, and typhoid fever), a reduced reliability of water resources and a loss in biodiversity.

4. **Due to its location near the northern edge of the Caribbean tectonic plate, Haiti has suffered from major earthquakes**: the 2010 earthquake resulted in the death of about 220,000 people and destroyed the equivalent of 120 percent of GDP. Haiti had not recovered from the enormity of the damage caused by the 2010 earthquake and hurricane Matthew in 2016 when, on August 14, 2021, a 7.2 magnitude earthquake struck the southern region, resulting in over 2,000 deaths, over 5,000 wounded, and economic damages in the Grand'Anse, Les Nippes

[1] World Development Indicators, 2020, available at: https://databank.worldbank.org/source/world-development-indicators.
[2] WB Macro Poverty Outlook, available at https://www.worldbank.org/en/publication/macro-poverty-outlook/mpo_lac.
[3] Haiti Macro Poverty Outlook, October 2020. http://pubdocs.worldbank.org/en/302511582655271446/mpo-lac.pdf.
[4] *Peyi Lòk* refers to a lockdown form of protest whereby businesses, schools, and public transportation are generally halted, leading to shortages of food, gas, and other necessities.
[5] Armed Conflict Location & Event Data Project, 2021. https://acleddata.com/2021/02/02/ten-conflicts-to-worry-about-in-2021/#1612195820235-14ee80d6-2b08
[6] Haiti's Political and Economic Conditions, Congress Research Services, 2020 https://www.justice.gov/eoir/page/file/1316076
[7] World Bank and the ONPES (National Observatory of Poverty and Social Exclusion). 2014. *Global Facility for Disaster Reduction and Recovery, Think Hazard Haiti Profile* (https://thinkhazard.org/en/report/108-haiti).

and Sud Departments reaching US$1.11 billion (equivalent to 7.8 percent of Haiti's 2019 GDP), according to early assessments.[8] Preliminary findings of the Post-Disaster Needs Assessment (PDNA)[9] coordinated by the Ministry of Planning and External Cooperation indicate that an estimated 619,000 people required humanitarian support following the earthquake, representing about 36.8 percent of the total population of the three Southern Departments.

5. **Poverty and vulnerability in Haiti have been further exacerbated by the COVID-19 pandemic and associated economic downturn in 2020.** Haiti reported its first case of the novel coronavirus on March 19, 2020. As of December 7, 2021, there have been 25,638 cases and 750 deaths reported.[10] The COVID-19 pandemic, and associated lockdowns, disruptions in value chains, employment and access to basic social amenities, and losses are expected to have long-lasting effects on household welfare, and have already contributed to increased extreme poverty (less than US$1.90 per day), which rose from 25.9 percent in 2019 to 27.3 percent in 2020.

B. Sectoral and Institutional Context

6. **Haiti's population is suffering from very high levels of food insecurity and malnutrition, and the country is facing a growing food insecurity crisis.** Rising staple food prices, the volatility of the gourde, sociopolitical unrest, deteriorating security conditions, and declines in agricultural production, due to erratic rainfall, have greatly reduced access to food for the poorest households. As of January 2020, 13.6 percent of children under age 5 were suffering from global acute malnutrition (up from 4.1 percent in 2012),[11] while 23 percent suffered from chronic malnutrition, which is more prevalent in rural than in urban areas. According to the most recent estimates by the Integrated Food Security Phase Classification (IPC), as of September 2021, 4.4 million people (44 percent of the population) were facing Crisis conditions or worse (IPC Phase 3 and higher), and this number is projected to increase to 4.6 million (46 percent) by June 2022, due to reduced access to food as incomes remain depressed and food prices soar (see Annex 5 for a detailed description of the food insecurity conditions that Haiti faces).[12]

7. **Climate change is exacerbating the risks of food insecurity and malnutrition.[13]** First, the frequency and intensity of climate-induced natural disasters, such as droughts, floods and storms, is affecting crops, agriculture infrastructure and assets, with deleterious effects on rural livelihoods. Second, long-term climate change, including changing precipitation patterns and increasing temperatures, affects the reliability of water resources for food production, with a negative impact on the livelihoods of local communities. Long-term climate change also affects nutrition, via impacts on dietary diversity and health.

8. **Low agricultural productivity and high food prices are key drivers of food insecurity in Haiti.[14]** The prices of four important food staples – imported rice, black beans, maize meal and vegetable oil – all increased by over 100 percent in nominal terms between 2015 and 2020, and most notably since 2018.[15] The impact of increasing

[8] Global Rapid Damage Estimation (GRADE) Report, August 27, 2021, World Bank Group.
[9] "Post-Disaster Needs Assessment in Haiti: Earthquake of 14 August 2022 in the Southern Peninsula", Republic of Haiti, Ministry of Planning and External Cooperation.
[10] https://coronavirus.jhu.edu/region/haiti.
[11] Global acute malnutrition, or wasting, is defined by low weight-for-height and/or edema, combining both moderate and severe acute malnutrition.
[12] The IPC was developed by FAO to provide a rigorous standard for classifying food insecurity contexts in five stages, to inform policymaking and responses: 1: Minimal; 2: Stressed; 3: Crisis; 4: Emergency; and 5: Famine. See https://www.ipcinfo.org.IPC 2020. Haiti: Integrated Food Security Phase Classification Snapshot September 2021 - June 2022. Available at: *http://www.ipcinfo.org/fileadmin/user_upload/ipcinfo/docs/IPC_Haiti_Acute_Food_Insecurity_2021Sept2022June_Snapshot_English_rural_urban.pdf*.
[13] The drought conditions in 2020 were an important cause of the worsening food insecurity and malnutrition.
[14] In general, and also affecting the current situation.
[15] See the World Food Programme: Vulnerability Analysis and Mapping 15, 2021.

food prices on household budgets and consumption is substantial, as food expenditures make up 70 percent of total household budgets on average. This share increases among poorer rural households that rely on market purchases to meet more of their food needs.

9. **Nutrition has been impacted not only in terms of accessibility and availability of food but also in terms of dietary diversity and quality**. A large share of households has reduced dietary diversity as a coping strategy in the face of lower incomes and rising food prices. Data from an Emergency Food Security Assessment (EFSA) by Haiti's National Commission for Food Security (CNSA) in 2021 indicate that over 40 percent of the population in parts of the Sud and Les Nippes Departments have low dietary diversity.[16]

10. **External assistance to food crisis-affected regions has been uneven,[17] and large swathes of the population in these areas are food insecure**. The Centre Department has received significantly less external support than other Departments in IPC3 (crisis) conditions, with a very limited presence of donor partners, and portions of the Department are slipping into IPC4 (emergency) conditions. Food insecurity is also dire in the southern "*Grand Sud*" Departments of Grand'Anse, Les Nippes and Sud, with low to modest support relative to Haiti's three Northern Departments. The low level of external support in the three southern Departments is especially unfortunate because 45 to 50 percent of the population in those Departments were in IPC Phase 3 of food insecurity conditions and higher, even before the devastating earthquake on August 14, 2021, and Tropical Storm Grace, which struck the southern coast of Haiti on August 16-17, 2021.

11. **Haiti has been caught between rising food insecurity and declining external assistance.** External assistance has decreased significantly in the past years, falling from 11.1 percent of GDP in 2011 (Post-2010 earthquake), to 2.8 percent in 2017, 2.4 percent in 2018, 1.3 percent in 2019, and 1.4 percent in 2020, with assistance in 2019-20 at the lowest levels (as share of GDP) since 2004. The Inter-American Development Bank (IDB), the International Fund for Agriculture Development (IFAD), the United States Agency for International Development (USAID), Canada, Swiss Cooperation, the Food and Agriculture Organization of the United Nations (FAO), and the World Food Programme (WFP) have been the most active partners, together with the World Bank, in supporting Haiti's agricultural development, while WFP, the European Union and several international NGOs have been providing critical humanitarian support in the form of emergency response and food assistance.

12. **The National Coordination of Food Security (CNSA) is the lead agency charged with coordinating the responses Haiti's food insecurity challenges.** The CNSA plays a leading role in defining, organizing, and harmonizing the interventions of different actors in the food security sector, monitoring and assessing the food security situation as well as the performance of food-related programs, and proposing food security policies and strategies.[18] National strategic priorities are reflected in the 2018 National Policy and Strategies for Sovereignty and Food Security and for Nutrition in Haiti (PSNSSANH), which describes the overall context, identifies pathways and partnerships for food system transformations, and proposes actions to reduce food insecurity. To this end, CNSA coordinates a technical group of multilateral and bilateral donors, including the WFP; FAO; the UN Office for the Coordination of Humanitarian Affairs (UNOCHA); USAID and the Famine Early Warning System Network (FEWS NET) that USAID financed, as well as a range of non-governmental organizations, such as World Vision, Action against Hunger, and WeWorld GVC. WFP and FAO co-coordinate the global Food Security Cluster, a multi-actor partnership dedicated to addressing food insecurity around the globe and that includes a country-level donor partner group for Haiti. The focus of these donor partners has been primarily on providing humanitarian

[16] «Rapport d'analyse de la Sécurité Alimentaire et de Nutrition: Zones affectées et zones non affectées par les derniers chocs», (EFSA/ENSSAN, 2021), Coordination Nationale de la Sécurité Alimentaire (CNSA). The EFSA is available at: https://documents.wfp.org/stellent/groups/public/documents/ena/wfp282021.pdf.
[17] For more details see Annex 5.
[18] https://www.cnsahaiti.org/

support to beneficiaries facing emergency levels of food insecurity, i.e., those classified as IPC4.[19]

13. **With Food Security Cluster partners focusing on providing humanitarian assistance to the 1.3 million Haitians in IPC4 status, there remains a significant gap in coverage for livelihood support and food production for the more than 3 million Haitians facing crisis levels of food insecurity (IPC3).** There is a strong level of humanitarian support for households facing emergency (IPC4) food insecurity, especially in the form of emergency food assistance and cash-based transfers. For example, the World Food Programme (WFP), is providing over US$6.5 million in cash-based transfers to 482,000 recipients (see Annex 5). However, there is a very large gap between available financial resources and the needs of rural households facing IPC3 (crisis) levels of food insecurity, many of which are at risk of slipping into emergency (IPC4) levels of food insecurity. The Ministry of Agriculture, Natural Resources and Rural Development's (MARNDR) 8-year Framework of Priorities and Action Plan 2017-2025 identifies US$1.5 billion in investments needed to sustainably develop the Haitian agricultural sector and the preservation and enhancement of productive assets in the sector, of which only 20 percent has been funded to date, leaving a large financing gap of US$1.2 billion. The large gap in terms of support for food production, nutrition security and livelihoods for the IPC3 population points to a significant risk of a downward spiral towards further dependency on food imports and safety nets, and of further large increases in food insecurity. It provides a strong justification for urgent support in these areas while also attending to the longer-term agenda for sustainable development.

14. **Agriculture is critical and fundamental to addressing food insecurity in Haiti**. Primary agriculture accounts for more than 20 percent of GDP and around 50 percent of overall employment, and most rural Haitians rely on agricultural production as their primary livelihood source. Agriculture accounts for around 66 percent of employment in rural areas (75 percent of employment in low-income rural households) and is the sole economic activity of 55 percent of rural households. Agricultural production is critical for food security in rural areas, where more than one-half of the population is affected by undernutrition. One third of agricultural production is used to meet household consumption needs, while the rest is sold to generate much-needed income.

15. **Women play a key role in the production and marketing of agricultural products and therefore in providing food for their families.** Owing to high levels of emigration among Haitian men, women's roles as agricultural producers and household heads are crucial to the development of rural communities. They contribute substantially to soil and water conservation, harvesting, and marketing of goods. Despite their contribution, gender gaps diminish their capacity to improve their skills and productivity. These gaps are a result of several factors including inadequate access to technical training, improved technology, productive resources (including access to hired labor for infrastructure development and finance), as well as market information and access to wider markets. Moreover, rural women's comparatively low levels of literacy hamper their capacity to benefit from technical support services.[20] Roughly 50 percent of households in Haiti are headed by women, who also represent around 47 percent of farmers in the Departments to be targeted under the Project. Because of high male emigration, many women are left with the responsibility for managing the family farm and caring for dependents in their household (at 52.1 percent, Haiti has one of the highest youth dependency ratios in the Caribbean). These challenges make it even harder for women to cope with Haiti's frequent hydro-meteorological and geophysical disasters.

16. **Despite its importance in local food security and significant contribution to GDP, agriculture in Haiti is**

[19] The Food Security Cluster (https://fscluster.org) was established in 2011 to coordinate the food security response during a humanitarian crisis, addressing issues of food availability, access and utilization; provide food security information, advocacy and communication, and coordinate food security responses.

[20] Arias, D., Leguia, J.J. and Sy, A. 2013. "Determinants of Agricultural Extension Services: the case of Haiti", LCSSD Food Paper Series, World Bank.

beset with problems. Production is highly dependent on rainfall, most farmers have limited access to agricultural inputs and knowledge, and access to rural finance is not available for most farmers. There is little organization among producers, and agriculture value chains are underdeveloped, in part due to the lack of rural infrastructure needed to access markets. Moreover, the need to generate income in the short term drives many farmers to engage in agricultural production practices that lead to deforestation and other negative environmental outcomes, resulting in a vicious circle of land degradation and increased vulnerability of the population to food insecurity. Indeed, around 85 percent of watersheds are affected by severe land degradation, thereby undermining the natural resource base on which Haitian agriculture depends and leading to greater risks of food insecurity. Reducing poverty and building resilience requires an integrated approach that protects the environment, while ensuring adequate returns from agricultural production to create a positive feedback loop that reduces food insecurity. Thus, it will be essential to ensure widespread adoption of climate- and nutrition-smart technologies and practices, along with improved food safety, post-harvest handling and loss reduction.

17. **The massive earthquake on August 14, 2021, caused significant damage to agriculture in the southern Departments of Grand'Anse, Sud and Les Nippes and negatively impacted food security**. The 7.2 magnitude earthquake, whose epicenter was in the Department of Les Nippes, caused severe loss of life and numerous injuries, damaged or destroyed more than 77,000 homes, and caused major damage to rural infrastructure, leaving more than 400,000 people isolated due to landslides.[21] Rural feeder roads became impassable, making it harder to access or sell food and driving up food prices. Water catchment infrastructures and miles of irrigation channels were damaged or destroyed (which later led to massive siltation of channels as a result of Tropical Storm Grace). Cisterns used for drinking water, backyard vegetable production and small-scale irrigation of crops were ruptured. Livestock was lost and structures for raising/slaughtering livestock were destroyed, as were storage and processing facilities. These effects led to major crop losses, imperiling farmers' ability to produce in the next cropping and preventing them from directing scarce resources to rebuilding damaged/destroyed homes.

18. **The Emergency Food Security Assessment (EFSA)[22] conducted by CNSA immediately after the August 2021 earthquake estimated the number of food insecure people in the earthquake-affected southern Departments at more than 750,000**. This included 230,000 people in the Department of Grand'Anse, 155,000 in Les Nippes and 369,000 in the Sud Department. These numbers make clear that the earthquake contributed to a significant spike in the already high levels of food insecurity in the *Grand Sud*, with year-on-year increases in the food insecure population of 21 percent in Grand'Anse, 35 percent in Les Nippes and 59 percent in Sud, respectively.

19. **Multiple public and private institutions are supporting agri-food production in the Departments that the Project will target.** These include the Ministry of Agriculture, Natural Resources and Rural Development (MARNDR) as the lead agency, supported, *inter alia*, by its Directorate for Agricultural Infrastructure, its National Seeds Service and its extension services; the Departmental Directorates for the Grand'Anse, Les Nippes, Sud and Centre Departments; Municipal Agricultural Offices; irrigation associations; producer organizations; Non-Governmental Organizations (NGOs), and private companies providing technical support, supplies and marketing services. Notwithstanding a limited budgetary allocation and shortcomings in its ability to support improved production practices, phytosanitary standards and better land and water management, MARNDR has played a leading role in implementing previous IDA-financed agricultural operations in Haiti, with support from central and

[21] Ministère des Travaux Publics, des Transports et de la Communication (MTPTC). "Présentation de l'impact du séisme sur le réseau routier." September 15, 2021.

[22] «Rapport d'analyse de la Sécurité Alimentaire et de Nutrition : Zones affectées et zones non affectées par les derniers chocs », (EFSA/ENSSAN, 2021) , Coordination Nationale de la Sécurité Alimentaire (CNSA). The EFSA is available at: https://documents.wfp.org/stellent/groups/public/documents/ena/wfp282021.pdf.

local Project Implementation Units (PIUs), as well as in ensuring coordination among the various actors.

20. **The Bank is currently implementing two IDA-financed agricultural projects in Haiti that are helping to strengthen food security.** The Second Strengthening Agriculture Public Services Project (RESEPAG; P126744), approved in December 2011, with Additional Financing (RESEPAG-P163081) approved in June 2017, for a total of US$85 million, is designed to: (a) reinforce MARNDR's capacity to provide or facilitate access to services in the agricultural sector; (b) increase market access for small producers and increase food security in targeted areas; and (c) provide financial assistance in the case of an Agriculture Sector Emergency. Project activities include rehabilitating irrigation and drainage, recapitalizing livestock and agricultural assets, and building resilience to extreme weather. RESEPAG II financing is nearly fully disbursed, and it is expected to close in March 2022. The Haiti Resilient Productive Landscapes Project (RPL-P162908) for US$21 million approved on March 1, 2018, with Additional Financing (AF; P175176) of US$7.75 million (approved on November 19, 2020), supports the adoption of resilience-enhancing agricultural and landscape management practices in selected sub-watersheds across Haiti, in addition to strengthening the capacity of institutions to respond to climatic impacts. The CERC activated under the RPL Project in April 2020 utilized a similar strategy and supported 21,500 agricultural households. The Project is expected to close in December 2023. Both projects have established strong implementation capacity and have been performing satisfactorily. Also, both projects are being used to channel emergency support to the Grand Sud, which means they can serve as sources of valuable knowledge for use in the Project. However, the two projects will not allow an adequate response to the current challenge; with less than US$21 million remaining to be disbursed across the two projects, they lack the funds needed to address the growing food insecurity in the *Grand Sud* and Centre Departments.

21. **The Bank is also addressing food insecurity in Haiti through operations beyond the agricultural sector.** These include the Municipal Development and Urban Resilience (MDUR) Project (P155201), financed with US$55.4 million in grant financing approved on June 2017, targeting municipalities in northern Haiti, and the recently approved US$75 million Adaptive Social Protection for Increased Resilience (ASPIRE) Project (P174111), designed to support Haiti's efforts to establish an adaptive safety net system to respond to shocks and to reduce vulnerability to food insecurity and future disasters, which includes a strong focus on Grand'Anse. The Bank has also provided significant support in the related areas of disaster risk management and reconstruction. However, there remains an imperative need to assist food insecure households, particularly those in rural areas where poverty is deepest, via the critical entry point of climate-resilient, nutrition-smart agri-food production.

22. **To address the crisis levels of food insecurity in Haiti, funding from the IDA Crisis Response Window (CRW) Early Response Financing (ERF) would be deployed for the proposed Project via the Local Activation approach**. The ERF trigger for food insecurity comprises two rules, both of which must be met. Given observed worsening food security conditions in the country since that update, US$50 million in ERF support is being pursued via the Local Activation approach. The Technical Assessment Review took place on May 5, 2021, and the Technical Expert Group on Food Security (TEGFS) reached the consensus view that the Haiti assessment meets the technical requirements for an eligible food security event under the CRW ERF. The TEGFS also agreed that more recent evidence, including information provided by other reputable food security data sources (e.g., IPC) demonstrates that the country is facing growing risks which approximate the order of magnitude of the ERF thresholds. Since the assessment review, the tendency has been towards worsening food security conditions (see Annex 5 for detailed evidence). An additional US$30 million is being sought from the CRW to provide emergency support to affected farming households following the massive August 2021 earthquake. The scope and rationale for this support to earthquake-affected areas are described in further detail in Annexes 2, 4 and 5.

C. Relevance to Higher Level Objectives

23. **The Project is aligned with the Government of Haiti's (GoH's) Economic Recovery Plan Post COVID-19**

for 2020–2023, its 2018 National Policy and Strategies for Sovereignty and Food Security and for Nutrition in Haiti (PSNSSANH), and its National Social Protection and Promotion Policy (NSPPP) adopted in 2020 to address poverty, exclusion, and inequality. The GoH's policy priorities include developing human capital and promoting social inclusion as key pillars, as well as addressing social needs arising from the COVID-19 crisis, including via programs to tackle food insecurity and boost social transfers to reduce poverty. The Project's support for increasing access to and availability of nutritious food aligns closely with GoH's food security policy priorities. Moreover, the Project's support to strengthen resilience to climate change is also well-aligned with GoH's policy to mitigate and adapt to climate change, including as expressed in the Civil Protection Committee's National Strategy for Disaster Risk Management.

24. **The Project will contribute to the World Bank's twin goals of ending extreme poverty and promoting shared prosperity.** It will contribute to reducing vulnerability to food insecurity through the provision of temporary employment opportunities, in-kind subsidies and technical support to promote increased accessibility to and availability of nutritious agri-food products. The promotion of good practices in agriculture and nutrition will strengthen livelihoods and create new opportunities in areas suffering from crisis levels of food insecurity and with very high vulnerability to climate-related and other natural disasters. The Project is also well aligned with the Bank's Strategy for Countries affected by Fragility, Conflict, and Violence (FCV) 2020–2025,[23] which recognizes securing livelihoods and strengthening social protection as key entry points for addressing the impact of violence and contributing to social peace, as well as the importance of working across the humanitarian-development nexus in fragile situations in partnership with the UN, as will be done with the WFP under the Project. All activities under the Project will, moreover, be developed using the lens of the Bank's Nutrition Smart Agriculture (NSA) strategy,[24] which aims to strengthen nutrition outcomes via interventions in agriculture. The Project will also be implemented in a manner that promotes greater gender equity in rural communities, in line with the World Bank Group Gender Strategy (FY16-23) (see the Key Considerations in Project Design, below).[25]

25. **The Project will contribute to the achievement of the objectives of Haiti's Country Partnership Framework (CPF), as adjusted, to support the GoH's response to COVID-19 crises.** The Project is well aligned with all three main areas of focus of the World Bank Group's Country CPF for the Republic of Haiti FY16–FY21, discussed by the Board of Executive Directors on September 29, 2015[26] and updated during the Performance and Learning Review dated June 27, 2018: (a) inclusive growth; (b) human capital, and (c) resilience, and with the cross-cutting theme of sustainability, as it will promote increased accessibility to and availability of food for highly food insecure communities in ways that strengthen resilience to natural disasters. The Project also aligns with the WBG's Green, Resilient, and Inclusive Development (GRID) approach,[27] which pursues poverty eradication and shared prosperity with a sustainability lens, and intends to address the structural damage caused by COVID-19 with the goal of protecting poor and vulnerable people from the impact of the economic and social crisis triggered by the pandemic. The Project aligns with the GRID strategy by supporting inclusion (improving food and nutrition security, assuring livelihoods and economic inclusion of poor producers, and women farmers, supporting the

[23] Available at: https://www.worldbank.org/en/topic/fragilityconflictviolence/publication/world-bank-group-strategy-for-fragility-conflict-and-violence-2020-2025

[24] See: https://www.worldbank.org/en/topic/agriculture/publication/nutrition-smart-agriculture-when-good-nutrition-is-good-business

[25] World Bank Group Gender Strategy (FY16-23): Gender Equality, Poverty Reduction and Inclusive Growth. Available at: https://openknowledge.worldbank.org/handle/10986/23425.

[26] The CPF is Report No. 98132-HT, dated August 27, 2015, and the Performance and Learning Review (PLR) is Report No. 124812, dated May 31, 2018. The PLR extended the CPF period and milestones through to 2021 while a new CPF is being prepared.

[27] From COVID-19 Crisis Response to Resilient Recovery. Saving Lives and Livelihoods while Supporting Green, Resilient, and Inclusive Development (GRID). The World Bank Group Paper, April 9, 2021.

vulnerable affected by the earthquake and hurricane), as well as improving sustainability and the resilience of project beneficiaries (with measures to address climate change adaptation and mitigation).

II. PROJECT DESCRIPTION

A. Project Development Objective

PDO Statement

26. **The Project Development Objective (PDO)** is to support project beneficiaries' access to nutritious food, and increase climate- and nutrition-smart agricultural production, including in earthquake-affected areas.

PDO Level Indicators

Outcome 1: Project beneficiaries' access to nutritious food will be measured by:

- Targeted beneficiaries with improved Food Insecurity Experience Scale (FIES) ratings (number), including the proportion that are female (percentage).

Outcome 2: Increased climate- and nutrition-smart agricultural production will be measured by:

- Farmers adopting improved climate-smart technologies and approaches promoted by the Project (number, CRI), including the number that are female (number, CRI); and
- Increase in volume of nutritious agri-food products produced by targeted beneficiaries (percentage), including the increased volume produced by female beneficiaries (percentage).

Outcome 3: Increased climate-smart and nutrition-smart agricultural food production in earthquake-affected areas will be measured by:[28]

- Targeted earthquake-affected beneficiaries with improved Food Insecurity Experience Scale (FIES) ratings (number), including the proportion that are female (percentage); and
- Area recovered for climate-smart agricultural production with Project support following damage by the August 14, 2021 earthquake (hectares), including the area farmed by female beneficiaries (hectares).

B. Project Components

27. **The Emergency Resilient Agriculture for Food Security Project (PARSA) will address crisis levels of food insecurity for targeted beneficiaries in selected Departments in Haiti.** It will address both effective demand for and the supply of food in farming communities facing crisis food insecurity conditions (IPC3) and will promote the adoption of Climate Smart Agriculture (CSA) technologies and practices to enhance longer-term resilience to natural disasters and climate change. The Project will cover the Centre Department and three Departments in the natural-disaster-affected *Grand Sud* of Haiti, namely Grand'Anse, Les Nippes and Sud. The Project will provide targeted support to farming households in the *Grand Sud* adversely affected by the August 2021 earthquake (see Annex 2 for details on project design and cost estimates, and Annex 5 for details on targeting support).

28. **Component 1: Support project beneficiaries' access to nutritious food (US$22 million equivalent).** This component will improve the ability of food-insecure households to access food, as measured by improvements in the Food Insecurity Experience Scale (FIES) ratings for targeted beneficiaries, notably for women beneficiaries. It will target communities living in IPC3 food insecurity, and beneficiaries will be selected using a participatory community approach, complemented by data from the Information System of the Ministry of Social Affairs and

[28] Earthquake-affected areas refer to selected areas in the Departments of Grand'Anse, Les Nippes and Sud, identified in the PDNA, that were particularly adversely affected by the 7.2 magnitude earthquake that struck southern Haiti on August 14, 2021.

Labor (SIMAST). Component 1 will provide employment opportunities for rural unemployed or underemployed adults and youths of all genders, for persons with disabilities, and for persons facing intersectional challenges to obtain income-generating employment (e.g., elder women). It will finance wages,[29] materials (locally purchased where feasible), equipment, structures, and the requisite technical and administrative support to implement the temporary employment programs. The component will be implemented via two main types of initiatives:

- **Labor-intensive participatory community works programs designed to strengthen rural productive infrastructure**, including for land management and water management in areas that affect agricultural production, and rehabilitation of rural access roads to isolated communities or irrigated areas. This will improve their ability to purchase food, contribute to increased long-term production, and generate climate co-benefits by improving resilience to weather events and climate change trends. The works will adopt climate-resilient design standards and construction practices and will apply technologies and sources of energy aimed at reducing GHG emissions.
- **Temporary employment programs will also be financed for more accessible, supporting activities than the infrastructure works described above**, such as childcare and meal preparation (see Annex 2). This will create opportunities for people with disabilities who may not be able to engage in physically demanding infrastructure works. It will also create opportunities for women to benefit both as paid providers for childcare and meal preparation and as beneficiaries of these services, so as to free them to participate in the labor-intensive public works (see Annex 8 on addressing gender gaps). In consultation with the targeted communities, the locations of these activities will be selected to be convenient and safe for women and for persons with disabilities.

29. **Component 2: Increase climate- and nutrition-smart agricultural production (US$38 million equivalent).** This component will target farming communities in the Departments of Grand'Anse, Les Nippes, Sud and Centre facing IPC3 food insecurity,[30] and beneficiaries in these communities will be selected using a participatory community approach, with cross-checking of their status as farming households in MARNDR's Farmer Registry. Support under this component will result in farmers adopting improved climate-smart technologies and approaches, and in an increased volume of nutritious agri-food products produced by targeted beneficiaries, including by women farmers. Component 2 will provide three main areas of support (see Annex 2 for further details):

- **Packages of key selected inputs will be financed for agricultural producers of all genders to strengthen and/or restart production**. Targeted farmers will receive input packages and related technical assistance (TA) and training, for climate-smart and nutrition-smart production of crops (including bio-fortified seed varieties that are climate-resilient and enhance adaptation to climate change) and livestock (including sheds, equipment, inputs for fish farming, beekeeping kits, and restocking of small farms impacted by swine fever). Together with infrastructure improvements under Component 1, the input packages and TA will increase availability of nutritious foodstuffs and generate climate co-benefits by strengthening resilience to future shocks. Women farmers will be targeted to reduce gaps in access to the agricultural inputs and TA (see Annex 8).
- **Support will be provided to improve the efficiency of post-harvest management practices by targeted farm households**, with support for storage and handling facilities, processing equipment, and technical support and capacity building, so as to improve food quality and value addition and at the same time

[29] The daily wages will be carefully determined to encourage self-selection and will be aligned with the recommendations of MARNDR also aligned with the financial support provided via social safety nets under the IDA-financed ASPIRE project.
[30] The targeted areas have long been highly exposed to weather events, and at least 50 percent of their populations were facing IPC3 or higher food insecurity conditions even before the August 2021 earthquake.

reduce loss and waste, thereby generating climate co-benefits via mitigation. Since women play a dominant role in many post-harvest activities, this component will pay particular attention to addressing the impediments they face in these activities.

- **Support will be provided to encourage climate resilient backyard production of food by targeted households**, including financing of input packages, equipment, and small structures, together with TA and training, so that beneficiaries can produce nutritious items like vegetables, eggs, and meat and address micronutrient deficiencies. Since women are the main producers in backyard plots, these activities will primarily target women beneficiaries. These activities are also likely to be more accessible for persons facing intersectional challenges (e.g., gender, age and/or disabilities), and packages would be designed with these considerations in mind.[31]

30. **Component 3: Promote access to nutritious food and increase climate- and nutrition-smart agricultural production in earthquake-affected areas (US$30 million equivalent).** Component 3 will finance temporary employment programs, building materials, equipment, structures, inputs and technical services (e.g. for building designs) in the earthquake-affected Departments of Sud, Grand'Anse and Les Nippes. It will target support to critical areas in these Departments identified in the Post-Disaster Needs Assessment, and the beneficiaries in these communities will be determined using a participatory community approach. The component will support the rehabilitation of public or community infrastructure damaged by the August 2021 earthquake, and will provide assistance to farmers during various production cycles (at least 2-3 campaigns) to enhance their productivity and resilience to observed and anticipated climate change impacts. The investments will be carried out following climate and disaster-resilient design standards and construction practices, and adopting practices for reducing GHG emission, generating enhanced resilience to weather shocks and climate change risks. Less technical works will be undertaken via labor-intensive participatory community works programs, while engineering firms and supervisory firms will be contracted for more technical challenges and those requiring heavy machinery. The outcome of this component will be measured by the number of targeted beneficiaries in the earthquake-affected areas with improved Food Insecurity Experience Scale ratings (FIES), and by the area recovered for climate-smart agricultural production following damage by the August 2021 earthquake, including the area farmed by female beneficiaries. Component 3 will support the following activities (see Annex 2):

- **Rehabilitation of damaged irrigation infrastructure to restore efficient operation**. The works will support the recovery of agricultural production, boost the incomes of a large, locally hired workforce, and yield climate co-benefits (both adaptation and mitigation) by installing renewable and energy-efficient equipment for water management (e.g., solar panels) wherever feasible.

- **Rehabilitation of rural roads to improve access to irrigated perimeters and agricultural areas.** In coordination with the Haiti Rural Accessibility and Resilience Project (P163490) which supports the rehabilitation of the primary and secondary departmental road network, the Project will rehabilitate selected rural feeder roads under the purview of MARNDR to improve year-round access to markets for earthquake-affected rural communities, using technical specifications and building materials designed to be climate-resilient and adapted to projected climate changes.

- **Investment in soil and water conservation measures to strengthen resilience to earthquakes and other natural disasters** will include erecting stone and natural barriers via planting of ricin, elephant grass, vetiver (also used by communities to generate revenues from oil production); installing gabion baskets

[31] The back-yard production subsidy mechanism was initiated around ten years ago in IDA- and IDB-financed operations and has been updated continuously with newly tested and improved technical packages, in close consultation with other donor partners as well (e.g., the French Development Agency and USAID). The mechanism is supported by a specific operational manual. The significant experience gained by MARNDR and operators will facilitate rapid implementation of this support.

along selected riverbanks and weirs in selected gullies to control and harvest water flows; and protecting water sources by reforesting critical areas and regenerating vegetative cover (contributing to a reduced carbon emission).

- **Rehabilitation of small-scale, hydraulic infrastructure and equipment, including water harvesting structures and cisterns destroyed by the earthquake.** This will include repairing or replacing damaged/destroyed structures so that they can be used again for production, storage, and processing; promoting more efficient water use (or reuse) and usage of rainwater, micro-irrigation), and renewable sources of energy in production and processing systems (e.g. solar panels), thereby generating climate co-benefits via both adaptation and mitigation measures.
- **Provision of input packages and TA to farmers decapitalized by the August 14, 2021, earthquake** similar to the packages described under Component 2. Earthquake-affected women farmers will be targeted to close gaps in their access to agricultural inputs and technical training.
- **Temporary employment programs in key supporting areas such as childcare and meal preparation**, just as in Component 1, although this support under Component 3 will be for communities in earthquake-affected areas.

31. **Component 4: Project management, monitoring and evaluation, and studies (US$12 million equivalent).** Component 4 will finance activities carried out by the PIU to implement the Project in line with the Project Operational Manual (POM). It will finance small civil works for rehabilitation or improvement of offices and training facilities for MARNDR and the PIU; incremental and operating costs, including fiduciary, environment, social and M&E staffing; rental of offices and training space; equipment and goods for Project management, and external audits. Resources dedicated to supporting recovery from earthquake-related damages under Component 3 will be tracked separately. The Project's M&E system will draw on the Kobo Toolbox, develop gender-disaggregated baseline data, and track key indicators on a gender-disaggregated basis. Component 4 will also finance selected studies, including to help GoH develop a comprehensive food security plan in line with CRW requirements, and will support the CNSA in its role as national coordinator of food security responses, as described in the National Policy and Strategies for Sovereignty and Food Security and for Nutrition in Haiti (PSNSSANH). Component 4 will also support MARNDR's services including the Agricultural Statistics Unit (USAI) and the Studies and Programming Unit (UEP), and Departmental Agricultural Directorates (DADs) affected by the earthquake, as described in the PDNA. Component 4 will also provide analytical and TA support to advise MARNDR on how best to assist swine/pig farmers to avert and address the emerging challenge of African Swine Fever.

32. **Component 5: Contingent Emergency Response Component (CERC) (US$0 million).** This contingent financing mechanism will permit Haiti rapid access to World Bank support in the event of an eligible crisis or emergency. The mechanism for triggering the CERC is established in the CERC Operations Manual, which is currently being finalized, detailing the applicable fiduciary, environmental and social, monitoring, reporting, and other implementation arrangements required for implementing the activities to be financed. In case of an event triggering the CERC, funds will be reallocated to this component to finance emergency purchases and activities, including goods, works and technical assistance to respond to the emergency. The implementation agency for the CERC will be the PIU of PARSA, which is the current PIU for RESEPAG-II. The CERC Manual, which will be integrated into the Project Operations Manual for PARSA, will be submitted to the World Bank by March 30, 2022.

Key Considerations in Project Design

33. **To ensure rapid, well-targeted, equitable, gender-balanced and safe outcomes for the targeted beneficiaries, PARSA will be implemented using existing, proven implementation mechanisms, and applying strict health measures to prevent the spread of COVID-19**. The Project will build on the experience and manuals,

protocols and mechanisms, and operators established in other agriculture sector operations financed by the Bank in Haiti and will draw on national institutions and operators with the requisite skills, expertise, and outreach capacity, to ensure readiness for implementation and fast delivery of outcomes to the affected population. For example, labor-intensive works supported under Component 1 will be implemented using mechanisms that are already in place in ongoing projects. The focus under Component 2 will be on activities that are most likely to yield returns in the short term (3 to 6 months) through production of food for immediate consumption and for sale in local markets. The CERC activated under the RPL Project in April 2020 utilized a similar strategy and supported 21,500 agricultural households (i.e., more than 100,000 beneficiaries) across two cropping seasons (Spring-Summer 2020 and Winter 2020). Component 3 will finance similar activities to those financed under Components 1 and 2, but with a focus on earthquake-affected areas to ensure a full recovery from the damages and losses suffered as a result of the August 14, 2021 earthquake and to build resilience against future disasters. All activities supported under the Project will be subject to strict health measures to prevent the spread of COVID-19, following procedures detailed in the POM (and enumerated in Annex 9).

34. **The PARSA Project will target opportunities for women, in light of the prominent role they play in agricultural production and marketing, and of the important gender gaps that they face.** The recent natural disasters and resulting food insecurity crises have affected women intensely, particularly in their roles as family caregivers, agricultural producers, and processors and marketers of food in their communities. Even prior to the recent natural disasters, women in farming households in the target areas faced major gender gaps: they earned less income from agriculture; had lower levels of literacy; lacked reliable access to technical knowledge; made less use of cutting-edge technologies; and lacked business management skills. [32]

35. **The Project will implement specific measures in terms of what is supported (activities) and how support is provided (approaches) to address identified gender gaps that women in farming households face.** For example, by supporting temporary employment programs not only for rehabilitating rural productive infrastructure but also in critical supporting areas, including the provision of childcare and meal preparation, the scope for women's participation in participatory community works programs is greatly increased. The Project will provide support via methods designed to address gender gaps in literacy and knowledge. For example, technical information about labor-saving technologies, improved food processing methods, and effective business management will be transmitted via hands-on demonstrations and accompanied by regular follow-up. Moreover, the Project will work with participating entities to ensure that services are provided in appropriate spaces and at convenient times for women beneficiaries and draw on skilled women where feasible to provide support to targeted female-headed households. In addition, the Project will target opportunities for women to generate income and restart production with input packages, strengthening of post-harvest processes, and increased backyard production, where women play a predominant role. The Project will also support women farmers to recover from earthquake-related losses and thereby address gaps in incomes.

36. **The Project will establish key outcome targets to monitor progress in closing the gaps faced by women in farming households in the target areas.** In particular, the Project's Monitoring and Evaluation (M&E) system will (i) track improvements in ratings of the Food Insecurity Experience Scale (FIES) resulting from women gaining access to temporary employment opportunities; (ii) track increases in the adoption by women of improved agricultural technologies and in the production of increased volumes of nutritious foods; and (iii) track FIES ratings and the area farmed by female beneficiaries that is recovered for agricultural production with Project support following damage by the August 14, 2021 earthquake. It is expected that, overall, women farmers, who make up

[32] *https://www.refworld.org/docid/59ef1c184.html*. USAID/ Haiti Gender Assessment Vol. I 2016 citing the World Bank and Observatoire National de la Pauvreté et de l'Exclusion Sociale (ONPES) (2014). Investing in People to Fight Poverty in Haiti, Reflections for Evidence-based Policy Making. Washington, DC: World Bank.

around 47 percent of farmers[33] will account for at least 55 percent of overall project beneficiaries, with a higher proportion (at least 60 percent) in the case of backyard production, which is expected to be particularly beneficial to women facing intersectional challenges, e.g., women who are aged or are also persons with disabilities. Thus, specific actions (in terms of both the support provided and of the delivery mechanisms) will be undertaken under the Project, in line with the Project's Gender Action Plan, to close two major identified gaps relating to women's employment and human resource endowment, namely: (i) gaps in access to income, to be addressed through temporary employment programs designed to meet immediate income needs arising from the crises generated by hydrometeorological and geophysical disasters; and (ii) gaps in access to productive resources, such as the input packages and technical knowledge required for climate-smart agricultural production. Moreover, progress will be monitored via gender-disaggregated indicators that are expected to indicate that a larger share of the benefits will accrue to women farmers under the Project than their share in the farming population, so as to begin to close the above gaps that women farmers face (see Annex Table 8.1 for the full set of linkages from identified gender gaps to project actions address them, to monitoring indicators, and to key pillars of the Bank's Gender Strategy). The Project will ensure the application of provisions in the ESMF and LMP related to ensuring safe spaces for persons of all genders and will monitor responses to grievances and project satisfaction levels by gender. Guidance for these approaches will be incorporated in the gender section of the Project Operational Manual and will be overseen by the PIU's gender specialist, with support from the Bank's task team (see Annex 8 on Gender).

37. **Citizen engagement will be promoted throughout the project cycle**. The Project will implement a timely and effective communication and outreach strategy, aligned with the Project's Stakeholder Engagement Plan, to raise awareness among potential beneficiaries and foster open dialogue on the Project, so as to encourage the active participation by communities in the selection of beneficiaries and in the prioritization, location, design and implementation of works to be financed under the Project. Effective communications and outreach will also encourage accountability and transparency under the Project and will ensure that beneficiaries are aware of, and understand how to utilize, the Project's grievance redress mechanisms. The project will rely on existing roundtable mechanisms for broader consultations and information in the selected Departments and will engage in detailed consultations with Irrigation Associations and other farmer groups at the community level to implement the participatory community approach for targeting beneficiaries. The Project's Stakeholder Engagement Plan will help to identify constraints and opportunities and allow the PIU to develop tactics for mitigating the former and leveraging the latter.

Project Financing

38. **The Project will be financed via three IDA grants for a total of SDR 73.3 million (US$102 million equivalent).** The grant financing will include US$22 million equivalent from Haiti's IDA program, US$30 million equivalent from the Crisis Response Window (CRW), and US$50 million equivalent from the CRW Emergency Response Fund (ERF). The summary of project costs by component appears in Table 1, and a detailed breakdown by component, targeted Department and source of financing is provided in Annex 2.

[33] See MARNDR: "*Établissement d'un registre des agriculteurs et fournisseurs de biens et services agricoles dans les Départements des Nippes, du Sud et de la Grand'Anse en Haïti*." DP No RE2-FA-DP-05/18, May 2020.

Table 1: Project Costs by Component

Project Components	Project Cost (US$ million equivalent)
Component 1: Beneficiaries' access to nutritious food	**22**
Component 2: Climate-/Nutrition-smart agricultural production	**38**
Component 3: Access and production in earthquake-affected areas	**30**
Component 4: Project Management, M&E and Studies	**12**
Component 5: CERC	**0**
Total Project Cost	**102**

39. **A survey to assess earthquake-related damages and needs has already been undertaken in the earthquake-affected areas**. Thus, Component 3 is ready to be implemented in close coordination with other donors providing emergency assistance in the earthquake-affected areas. Activities under Components 1 and 2 will start with the identification of: (i) the sites; (ii) the infrastructure to be rehabilitated, and (iii) the targeting of beneficiaries in the selected communities (see Table A2.1 in Annex 2). A more detailed and comprehensive table with the planned sequencing of Project activities over the life of the Project will be included in the Project Operational Manual (POM), which is currently being finalized.

C. Project Beneficiaries and Targeting

40. **The Project will target the three Departments that make up the *Grand Sud* of Haiti (Grand'Anse, Sud, Les Nippes) and the Centre Department**. These Departments, along with the Centre Department, are facing crisis to emergency levels of food insecurity but have received little donor support for their farming populations facing IPC3 levels of food insecurity (see Annex 5). The *Grand Sud* Departments are particularly vulnerable to observed and anticipated climate change impacts and have been ravaged by natural disasters in recent years. The Project will target communities in these Departments that are not being supported by the existing Bank-financed projects or by other donor partners, focusing especially on communities that are facing crisis-level food security (IPC3) conditions and that are in danger of falling into Emergency food security (IPC4) conditions. Where feasible, PARSA will adopt a watershed-based approach, so that public works to strengthen land and water management in upper reaches of watersheds (financed by Component 1, and in earthquake-affected areas by Component 3) will benefit farmers in lower parts of the watershed who receive support to adopt climate- and nutrition-smart agricultural practices (financed by Component 2, and in earthquake-affected areas by Component 3).

41. **Within the targeted communities, the beneficiaries of the PARSA Project will be selected using the following criteria**: First, a community-based participatory approach involving irrigation associations and other farmers associations, will be used to identify and target the most vulnerable farming households within the selected communities under all three components. This approach will be open and broad-based in order to reduce the risk of elite capture, and under the first component, the community-based participatory approach will be complemented by drawing on data from the SIMAST database to identify the most vulnerable households in each area. For the second component, which focuses on increasing the volume of agricultural production, the selection of beneficiary farmers via the community-based participatory approach will be supported by cross-checking their status as farmers in MARNDR's Farmer Registry. For the earthquake-affected communities supported under Component 3, the participatory community-based approach will be complemented by data on affected communities from the PDNA. The identification of beneficiaries will draw on experience acquired under the RESEPAG II and RPL operations. Detailed criteria for the selection of eligible beneficiaries are specified in the Project Operational Manual (see Annex 5 for more details).

42. **The main beneficiaries of the Project will be around 75,000 farmers in rural households (comprising about 375,000 people) in the targeted areas that are experiencing crisis levels of food insecurity and/or suffered losses following the earthquake in August 2021.** These beneficiaries will receive input packages, agricultural assets and services as follows: (i) an estimated 35,000 farmers (including 19,250 women farmers) will be reached under Component 2 with input packages that increase and stabilize food production; (ii) a further 7,000 farmers (including 4,200 women) will be supported with agricultural assets or services that add value and/or reduce post-harvest losses; (iii) around 8,000 beneficiaries will receive support for backyard production (of whom at least 60 percent would be women); and (iv) an estimated 25,000 farmers in earthquake-affected areas (including almost 14,000 women) will be reached under Component 3 with agricultural assets and services. Overall, at least 55 percent of these targeted beneficiaries will be women farmers. In addition, the Project will support an estimated 3 million person-workdays via the temporary employment programs under Component 1, plus 1.5 million person-workdays via activities financed under Component 3. The 4.5 million person-workdays, equivalent to a total of 250,000 temporary jobs, would mostly be for farming households, notably during lean seasons before Project-financed input packages can bear fruit, but a portion would also be available to non-farming rural households in the target areas. Almost 2.5 million of the total person-workdays of temporary employment will be targeted for women. Whereas Component 3 will draw on the CRW to finance the most earthquake-affected areas in the three southern Departments, as identified in the PDNA (see Annex 5), Components 1 and 2 will draw on the CRW ERF to provide complementary support in the underserved high plateau areas of the Centre Department and in food insecure areas of the three southern Departments beyond the areas most affected by the earthquake.[34,35]

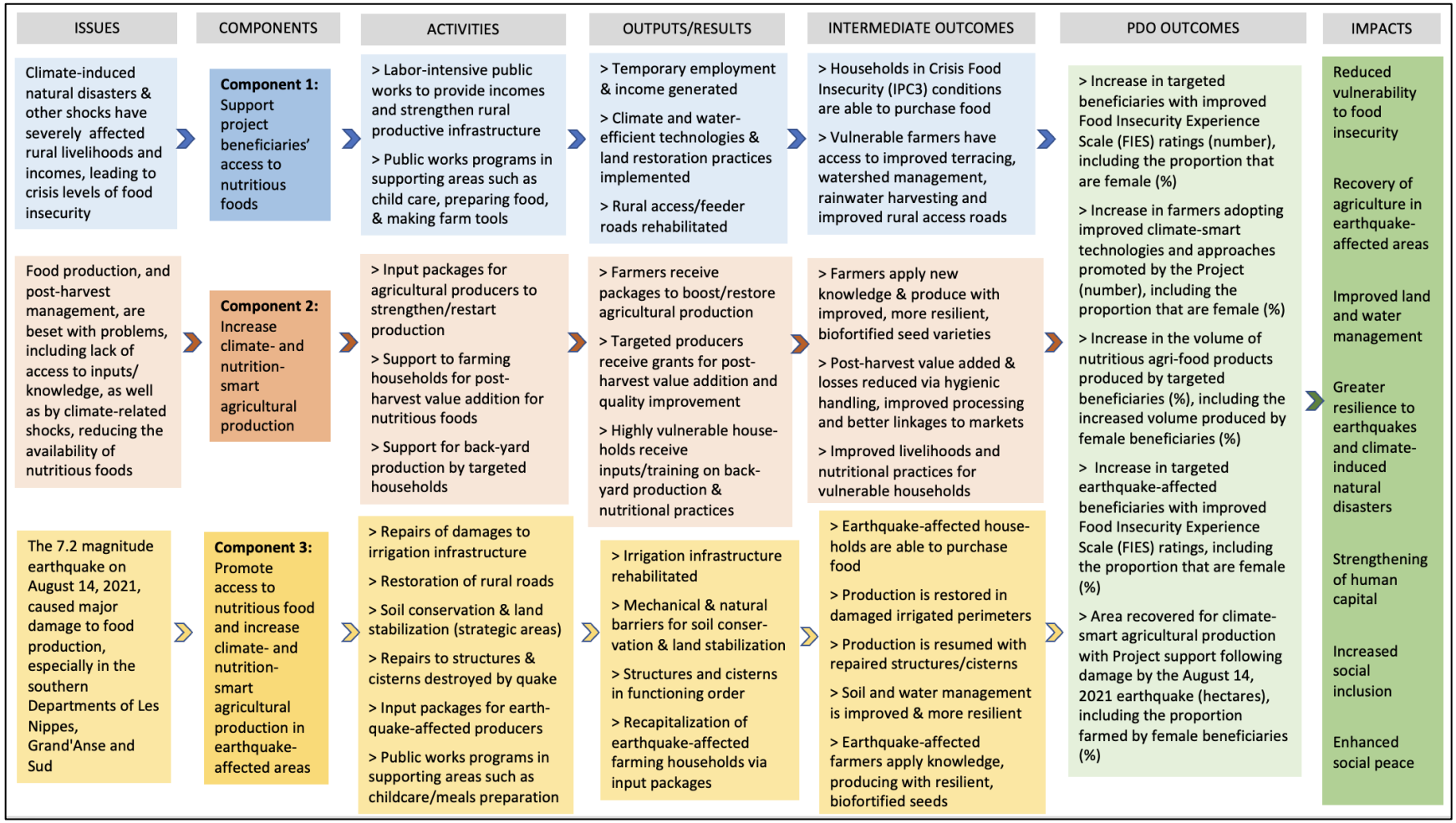
43. **The Theory of Change (TOC).** Figure 1 below outlines the theory of change for the Project, which is anchored in the Project Development Objective.

[34] Whereas the support under Components 1 and 2 will be targeted at farming households already facing crisis levels of food insecurity, the support under Component 3 may extend to households that are not at IPC3+ levels of food insecurity but were very adversely affected by the earthquake and run the risk of falling into IPC3+ status, so that these farming households can recover from the damages caused by the massive August 2021 earthquake as quickly as possible.

[35] The criteria for the selection of the four Departments under the PARSA Project are described in further details in a paper entitled: "Prioritization of Areas in Haiti to Address the Severe Increase in Food Insecurity", available in Project Files.

D. Results Chain

Figure 1: The Project's Theory of Change



Assumptions: (i) No extreme weather conditions or adverse external factors affect the sector; (ii) Beneficiaries are capable and incentivized to adopt new climate smart agricultural technologies; (iii) Adequate technical assistance is effectively provided to beneficiaries; (iv) Government is fully committed to the Project objectives and there is continued political will to implement it; (v) Adequate technologies and inputs are available for improving productivity and enhancing resiliency to climate change.

E. Rationale for Bank Involvement and Role of Partners

44. **The Bank is well placed to support the response to the recent earthquake and the worsening food security crisis in Haiti.** It can draw on extensive crisis response experience, deep multisectoral expertise, strong client relationships, and global partnerships. These have enabled the Bank to draw lessons from interventions that preserve livelihoods in the near term while also promoting recovery over the medium term and greater resilience over the longer term. Along with its multisectoral technical expertise, tested procedures and financial resources, the Bank has developed substantive experience in responding to emergencies in settings marked by fragility.

45. **While both agricultural and humanitarian donor-supported operations are currently being implemented in Haiti, they suffer from lack of coordination**. The lack of coordination is evident at different levels: between ministries, between sectors of cooperation, and between various projects and programs. A background report commissioned by the Bank during preparation of the PARSA Project and led by FAO provides a high-level overview of the food security response architecture in Haiti (key findings are reflected in Annex 5 and the full report is available in Project Files).[36] The Project will use the findings of this analysis and information collected via exchanges with donor partners to minimize overlaps or gaps in coverage, explore synergies wherever feasible, and draw on the experiences of donor partners, e.g., WFP's experience with screening and targeting.[37] In partnership with other donor partners, the Project will help Haiti to develop a comprehensive food security plan linked to climate- and nutrition-smart agriculture. Coordination among donor partners will be strengthened via regular exchanges to share information and ensure that activities are complementary.

46. **While there are many humanitarian assistance agencies assisting households facing IPC4 (emergency) food insecurity in Haiti, support for agricultural and livelihood needs among households facing by IPC3 (crisis) conditions is insufficient**. Humanitarian support in the form of emergency food assistance and cash transfers is being provided by a range of multilateral, bilateral and non-governmental (NGO) donors to ensure broad coverage of populations facing IPC4 food insecurity, with FAO and WFP playing a key role in monitoring the food insecurity situation in Haiti closely and in supporting Haiti's National Coordination for Food Security (CNSA). At the same time, total assistance by donor partners for agricultural and livelihood needs for more than 3 million households facing IPC3 food insecurity amounts to less than US$300 million, or 20 percent of the requirements specified in MARNDR's 8-year Framework of Priorities and Action Plan 2017-2025 (see Annex 5). The PARSA Project will serve as an important complement to ongoing humanitarian support for rural households facing emergency food insecurity (IPC4) and to other donors' support for households facing IPC3 (crisis) conditions. By design, there will be very limited geographical overlap of donor partners' programs with PARSA, and PARSA will coordinate closely with the IDA-financed ASPIRE Project, which targets the poorest population in urban and rural areas of Grand'Anse, to ensure broad coverage without overlaps for vulnerable farming households.[38] Even so, the gap between available financial resources and the resources needed to strengthen the agriculture sector and improve nutrition as described in the PREPOC (*Plan de Relance Economique Post Covid-19*) and the National Agricultural Investment Plan (PNIA 2016-2021) continues to increase, driven by a combination of rising needs and growing "donor fatigue." Donor support to Haiti as a share of GDP, which had soared to 11 percent following the 2010 earthquake, plummeted to 1.3-1.4 percent in 2019-2020, the lowest proportions since the early 2000s.

[36] FAO Report on: "General diagnostic, analysis and recommendations to improve coordination between humanitarian aid and the agriculture sector, and the response to the food crisis", November 5, 2021.

[37] For example, the Project will capitalize on the innovative experience of the Multisectoral Food and Nutrition Health Program (PMSAN) in the North and North East, financed by the European Union, which promotes the coordination of food security responses and the establishment of a tripartite coordination mechanism at the regional level between the 3 concerned ministries, namely MARNDR, the Ministry of Social Affairs and Labor (MAST), and the Ministry of Public Health and Population (MSPP).

[38] The identification and targeting of beneficiaries under ASPIRE is based on the SIMAST (*Système d'Information du Ministère des Affaires Sociales et du Travail)*, or Information System of the Ministry of Social Affairs and Labor, and is not based on IPC criteria. The PARSA Project will coordinate closely with ASPIRE to ensure broad coverage without duplication.

F. Lessons Learned and Reflected in the Project Design

47. **Experience with other Bank-funded agricultural projects currently under implementation in Haiti (RESEPAG II and Resilient Productive Landscapes, RPL), as well as from the implementation of food security projects in other countries and by other donors, has offered the following key lessons, which have been taken into consideration for the design of the Project**:

a) **Responding to food crises is time sensitive.** This is not only because it is important to mitigate quickly the shocks to livelihoods of adverse events, but also to ensure that responses in the agricultural sector are aligned with the cropping calendar. The Project includes strengthening of the institutional capacity to ensure rapid, effective implementation of the food crisis response.

b) **Responses need to be adapted closely to the agro-ecological context and to local knowledge and capacities.** A well-tested set of climate-smart agricultural technologies and practices for agriculture, livestock and agro-forestry production that align with local agro-ecological contexts has been developed under the earlier IDA-financed operations (see Annex Table A6.1 on packages by agro-ecological zone, and Annex Table A7.1 on investment models) and will be drawn upon for support under the Project.

c) **Empowering women by increasing knowledge and providing employment opportunities brings immediate rewards and allows women, who play a vital role in Haitian agriculture, to increase their production, provide healthier food for their families and generate more income**. The Project places gender considerations at the heart of its outreach/activities and will apply implementation strategies designed to facilitate women's and female-headed households' access to project resources and benefits.

d) **Strengthening community capacity and facilitating civic engagement improves targeting and increases commitment**. Being empowered to decide which assets to prioritize and receiving training to operate and maintain these assets yields major dividends on autonomous maintenance after projects close. Thus, communities will play a key role in defining interventions under the Project. Also, experience under RPL and RESEPAG II with participatory community selection of beneficiaries has proven successful and this approach will be adopted in targeting support under the PARSA Project.

e) **The rapid distribution of inputs in an emergency context has to be complemented with clear targeting and technical assistance**. In the past, an input subsidy scheme has proven effective in previous Bank-financed and other donor-financed projects. The subsidy scheme, which provides improved technical input packages, requires specific commitments by the beneficiaries and is accompanied by technical support and strong controls. This well-tested mechanism under RESEPAG II and RPL will be applied under the Project.

f) **Publicly managed cash-for-work programs have generally performed poorly in Haiti, due to inadequate supervision and inadequate community involvement, and this mechanism is now not favored by the authorities or by donor partners.** An improved approach that has proven effective in previous IDA-financed operations involves community participatory works, which engage and commit community-based organizations in targeting beneficiaries, managing payments for work and overseeing results, and which are accompanied by strong oversight by the PIU and contracted technical support. The temporary employment programs supported under the Project will adopt the well-tested community participatory approach for less technical works, while contracting engineering companies and supervisors–employing local manpower–for more complex works.

g) **Drawing on lessons from past crisis responses, it is essential to provide integrated responses that combine immediate responses to promote recovery while also strengthening resilience in the medium and longer term.** The Project will support immediate livelihood protection interventions that also increase longer-term productivity and resilience to natural shocks, and to ensure that harmful short-term coping strategies do not

undermine medium-term income-earning opportunities and resilience. The rapid delivery of an effective short-term response can also help to frame the longer-term institutional and policy agenda. A "twin track" approach can use interventions such as temporary employment and investments in local food production (spurring a near-term supply response) to open the way for more adaptive crisis response interventions, such as efforts to boost agricultural productivity and resilience over the longer term. An explicit "twin track" approach has substantial pay-off in terms of future productivity, livelihoods, and resilience, which are all critical dimensions of inclusive growth and poverty reduction.

h) **Transfer of skills and complementary activities foster diversified livelihoods**. Lessons from WFP show that semi-skilled and skilled workers from the community benefitted from the supervision of engineers and technical staff, which increased their expertise and experience, and from basic training to deliver the assigned outputs. The skills gained in WFP-financed projects increased their employability and their chances of finding higher-paid jobs. To maximize and more systematically reap these benefits, livelihood activities under PARSA will be accompanied by targeted training on both sustainable agricultural practices and capital-intensive activities, such as operating machinery for irrigation and cultivation or installing solar-powered water pumps.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

48. **The Ministry of Agriculture, Natural Resources and Rural Development (MARNDR) will have overall responsibility for the Project.** It will chair the Project Steering Committee (PSC) and will coordinate closely with the National Food Security Commission, which will be represented on the PSC, along with the Ministry of Finance, the Directors of the Agricultural Departments for Grand'Anse, Les Nippes, Sud and Centre, and the PIU Director. The final composition of the PSC will be determined and recorded in the POM. The PSC will meet at least twice per year to provide strategic and operational guidance for the Project and the chair of the PSC will convene additional meetings and invite technical experts to participate as needed. The PSC will be responsible for: (i) providing strategic oversight and guidance for the Project; (ii) supervising the implementation and monitoring the performance of the Project; (iii) identifying any necessary adjustments to the project design or implementation plan, based on performance monitoring results; and (iv) reviewing technical and financial reports and approving the project's annual work plans and budgets, prepared by the PIU.

49. **The Project will be implemented by MARNDR's existing PIU in charge of the ongoing Bank-funded RESEPAG-II Project (P126744), which has a strong and experienced team.**[39] As under the ongoing operation, the PIU will be responsible for day-to-day execution, coordination and implementation of activities, including: (i) preparing an annual work plan and budget *(plan de travail et du budget annuel, PTBA)*; (ii) managing financial management (FM) and procurement activities for the Project; (iii) ensuring implementation and monitoring of the Environmental and Social Management Framework (ESMF); (iv) ensuring gender gaps are addressed in project activities; (v) managing communications outreach to beneficiary communities; (vi) administering the Project's monitoring and evaluation (M&E) system, and (vii) organizing all project-related work and reporting. The Recipient shall maintain, throughout Project implementation, the PIU under MARNDR, taking all necessary actions for an efficient and effective implementation, including the provision of funding, personnel and other resources to enable the PIU to perform its functions, as detailed in the POM. The PIU will be strengthened in early stages of implementation by the appointment, under Terms of Reference (ToR) and with qualifications satisfactory to IDA, of the following staff: (i) a Project Coordinator, a procurement specialist, a financial management specialist, an accountant, an environmental specialist, a social development specialist, and a gender specialist, to be recruited

[39] This includes experienced operators that will help with implementation.

no later than two (2) months after the Effective Date; and (ii) an external auditor, to be recruited no later than four (4) months after the Effective Date, or any later date agreed by IDA.

50. **Currently, the PIU is located in two places:** (i) at the central level *(Unité de Gestion de Projet Centrale; PIU-C)* in Port-au-Prince, and (ii) at the local level *(Unité de Gestion de Projet Locale, PIU-L*, also known as the *Antenne Régionale)*, in the Sud Department, near the areas of interventions in the *Grand Sud*. Both units are fully staffed with appropriate expertise, although the Project will strengthen the fiduciary and environmental and social risk management staffing, as needed, to manage the additional workload (see Annexes 2 and 3). Moreover, MARNDR has proposed the establishment of an additional local PIU with appropriate expertise to support implementation in the Centre Department.[40]

51. **The Project will draw on regional agricultural consultation roundtables to maintain a continuous dialogue with stakeholders on the Project, and on a range of local partners to facilitate implementation.** The roundtables, comprising representatives of local agricultural communities, will be convened by the PIU at convenient locations in each Department and will be inclusive in terms of gender, ages and other factors (e.g., persons with disabilities). Participants will receive and disseminate information on project plans and provide feedback on behalf of key project stakeholders. In addition, the Project will enter into agreements with local Irrigation Associations, producer organizations, experienced local NGOs, watershed management committees and private input suppliers and marketers for the implementation of project components at the local level (see Annex 1). The engagement of UN agencies, such as FAO, WFP and the United Nations Office for Project Services (UNOPS), will also be considered to strengthen and deepen the pool of qualified local partners and providers of TA.

52. **The POM will incorporate all operational details required at the national and local levels.** A draft POM has been submitted by MARNDR and is currently under review. The draft Manual has been prepared on the basis of the POM for RESEPAG II, including procedures for the implementation of technical activities, addressing gender gaps, M&E, safeguards, and administrative and fiduciary functions. The POM will be adopted by the Recipient as a condition of disbursement of Category 1 of the Grant, in a manner satisfactory to IDA. The PARSA Project will also rely on a range of mechanisms, documents and protocols that have been developed and applied successfully under the RESEPAG and RPL Projects, including: (i) MARNDR's Farmer Subsidy Scheme Manual;[41] (ii) the Community Participatory Work Manual;[42] (iii) the RPL/RESEPAG Operations Manual for the incentives, livestock, and participatory works; (iv) draft Terms of Reference (ToRs) for Operators' Contracts and draft of ToRs for detailed studies, technical assistance and supervision; (v) models of protocols with Irrigation Associations, NGOs and producer organizations, and (vi) the National Farmer Registry that has been completed for the Grand'Anse, Les Nippes and Sud Departments.

B. Results Monitoring and Evaluation Arrangements

53. **Project-level Monitoring and Evaluation (M&E) will continue to apply the arrangements currently being used by the RESEPAG II PIU for the ongoing projects, plus the Geo-enabling initiative for Monitoring and Supervision (GEMS) ICT tool for project sites.** The PIU's M&E team will continue to use the Kobo Toolbox for this purpose, in line with the M&E manual contained in the POM. The Kobo Toolbox is also useful for managing the grievance mechanism and citizen engagement. The Project's M&E system will capture information on project

[40] This will also be important to mitigate political and governance risks under the Project, in light of the current severe challenges in managing activities beyond Port-au-Prince via travel to project areas, due to violent gang activities on roads leading out of the capital.
[41] Farmer Subsidy Scheme means the incentive-based grant mechanism under Components 2 and 3 of the Project to support Eligible Farmers who have met the eligibility criteria set forth in the Project Operational Manual.
[42] Community participatory work is defined as work on small rural infrastructure to improve access to productive lands, sustainable land management, water management and resilience against natural disasters, that will be carried out by the beneficiary rural communities with the technical, administrative, logistical and financial support of the project.

results against the intermediate output and final outcome targets established in the Results Framework (RF). This information will be included in the Project's Progress Reports, which will be prepared for each semester of project implementation and will be submitted to IDA no later than 45 days after the end of the period covered by the reports. A baseline survey, disaggregated by gender, will be conducted immediately after Effectiveness and beneficiaries will be surveyed again annually until year 5 (Project Closing) to track changes in their livelihood conditions attributable to the Project. In addition to regular monitoring and reporting on the agreed project indicators, the Progress Reports will report on financial management, procurement, and implementation of the Environmental and Social Commitment Plan (ESCP).

C. Sustainability

54. **The Project is expected to improve the accessibility and availability of food in targeted areas in ways that will strengthen rural recovery and long-term resilience beyond implementation.** The Project is expected to improve ***economic and social sustainability*** by increasing food access, availability, and affordability through support for rural productive infrastructure that would result in better land and water management as well as more reliable access to productive areas; packages to strengthen agri-food production, and gender-balanced support to rural households. Household nutritional status and incomes will also be improved through nutrition-smart approaches to capacity-building, production, and post-harvest management. The Project will strengthen ***environmental and climate-related sustainability*** through improved agricultural technologies (including more resistant seed varieties) and upgraded rural infrastructure that will greatly strengthen land and water resources management and resilience to geophysical and hydrometeorological natural disasters. The Project is expected to promote ***institutional sustainability*** by empowering local-level producers, including youth and women, with critical knowledge and capacity-building, strengthening producer organizations and producers' linkages to markets, and supporting MARNDR in developing a comprehensive food security plan, in partnership with other donor partners.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis (if applicable)

55. **The technical design of the Project is assessed as robust, as it builds on the strong experience of existing IDA-financed operations**. The Project will apply tested methodologies for temporary employment creation; adhere to rural productive infrastructure activities (such as the rehabilitation and maintenance of terraces, water harvesting facilities, watershed management/rainwater harvesting structures) that are relatively simple to implement through a community-based approach and require no resettlement; and will draw on existing central and local PIU teams from the RESEPAG II Project and on the POM which is being finalized.

56. **The *ex-ante* economic and financial analysis confirms that the Project is economically and financially viable**. The economic and financial analysis (EFA) takes into account the projected outreach to beneficiaries, hectares covered, returns from improved productivity, post-harvest handling, processing and marketing in the selected crops, livestock and activities and projected cost streams associated with the interventions. It uses a cash flow model over a 20-year period that includes all investment and operational costs of the Project, as well as the incremental net revenues derived from the crops, livestock, and activity financial models. The base case scenario makes assumptions on cropping patterns and foresees some switches during project implementation. It also assumes a 75 percent adoption rate of new technologies. The final adoption rate will be based on experiences in Haiti and neighboring countries with similar agro-ecologic conditions.

57. **The EFA incorporates the following assumptions.** The economic cost of the Project has been calculated using preliminary estimations of investment and maintenance costs. Total project investments are estimated at

US$102 million over the five years of implementation. The yearly costs to keep the project-financed infrastructure fully productive after the last year of project implementation (recurrent costs to ensure sustainability) are assumed to be 10 percent of total costs of the last year of implementation. The overall area under production with project activities is 22,750 hectares and the Project will support around 14,700 economic activities related to livestock and around 7,000 post-harvest packages. The with-Project economic analysis implies improvements in yields, reduction in post-harvest losses, and changes in cropping patterns and related economic activities.

58. **The Economic Internal Rate of Return (EIRR) for the base case scenario is 17.4 percent and the Net Present Value (NPV) is US$24.9 million, using a 12 percent discount rate**. These results indicate that, with an opportunity cost of capital of 12 percent, and without accounting for benefits from reduced greenhouse gas emissions, the Project will generate a satisfactory EIRR and NPV and is justified on economic grounds. Not all potential economic benefits have been included in the analysis. Therefore, it is safe to assume that the estimated economic benefits are on the low side of the potential economic returns that can be expected. More details on the Economic and Financial Analysis are provided in Annex 6.

59. **A number of scenarios have been analyzed to test the robustness of the Project's economic viability in the event of adverse factors**. Agricultural production is typically a risky business with risks related to price (input and output prices) and to production (drought, inundation, disease, pests, and post-harvest losses, etc.). To take into account these risks, the sensitivity analysis was conducted by varying the benefits generated by the agriculture production, the increase in costs for the investments of the projects and delays in implementation due to country instability. Finally, the switching values have been calculated to provide a clear picture of the maximum reduction in benefits and increase in costs that the project can bear before being economically unviable. The sensitivity analysis confirms that the EIRR and NPV are robust: increases of investment costs by 10 and 20 percent would reduce the EIRR to 15.4 percent and 13.6 percent, respectively, with positive NPVs. However, the Project is more sensitive to changes in benefits: a decrease in expected benefits by more than 23 percent would lead to unsatisfactory economic indicators.

Table 2: Sensitivity Analysis for the Economic Internal Rate of Return

Base case scenario	Project Benefits			Project Costs		Delay in benefits		Adoption rate	
	-30%	-20%	-10%	+10%	+20%	1 year	2 year	60%	50%
17.4%	10.4%	12.8%	15.2%	15.4%	13.6%	14.3%	12.0%	11.4%	8.6%
				Total costs		Total benefits			
Switching values				31%		-23%			

60. **The EIRR for the Project is higher when taking into account climate co-benefits**. The climate co-benefits in the economic analysis correspond to the economic valuation of GHG emission reduction. The Project is expected to generate a net reduction in GHG emissions of approximately 130,524 tCO_2e per year over a 20-year period. Per World Bank guidelines on economic assessment of climate change mitigation co-benefits, the economic analysis includes a Low Carbon Prices Scenario (LCP) and a High Carbon Prices Scenario (HCP). Table 3 summarizes the economic indicators of the three scenarios included in the analysis – baseline, LCP and HCP scenarios. The Project would likely generate other co-benefits linked to climate resilience. Improved soil and water management generates environmental benefits beyond GHG emissions reduction. According to the World Resources Institute (WRI, 2021), every US$1 invested in restoring degraded land generates an estimated US$7–$30 in economic benefits, including improved food production, carbon sequestration and water quality. There is also empirical evidence that creole gardens can bring additional benefits in terms of biodiversity and climate change adaptation capacity of productive ecosystems in areas highly vulnerable to climate change impacts. These climate co-benefits are not accounted for in this *ex-ante* analysis but, with improved information from the investment sub-projects

implementation, it would be relevant information to enhance the mid-term and final evaluation of the Project.

Table 3: Economic Indicators – Baseline scenario, LCP scenario and HCP scenario.

Economic Indicators	Baseline scenario	LCP scenario	HCP scenario
EIRR (%)	17.4%	29.2%	45.8%
E-NVP (USD)	24,896,195	71,972,699	118,846,535
Switching value for benefits (%)	-23%	-47%	-59%
Switching value for costs (%)	31%	88%	146%

61. **The Bank uses the Ex-Ante Carbon-Balance Tool (EX-ACT) to estimate the impact of agricultural investment lending on greenhouse gas (GHG) emissions and carbon sequestration.** EX-ACT is a land-based appraisal system for assessing a project's net carbon balance—the net balance of tons of CO_2 equivalent (tCO_2e) of GHGs that were emitted or sequestered as a result of project interventions—compared to a "without Project" scenario. As indicated above, over a duration of 20 years (implementation phase 5 years, capitalization 15 years), the Project will lead to a reduction of 130,524 tCO_2e in emissions annually, when compared to a business-as-usual baseline scenario. This is equivalent to 5.5 tCO_2e in emissions reduced annually per hectare. After 20 years, GHG mitigation benefits will amount to a total reduction of 2,610,470 tCO_2e. The full GHG accounting summary is provided in Annex 7.

B. Fiduciary

(i) Financial Management

62. **FM arrangements for this Project will fundamentally be the same as for the ongoing RESEPAG II, being implemented by the same PIU**. A FM assessment was conducted at MARNDR in October 2021 and concluded that the overall residual FM risk is deemed 'Substantial', due mainly to the country FM risk level which is deemed "High", the emergency nature of the Project, the substantial scaling up of activities relative to ongoing operations, and the need to establish a new local PIU in the Centre Department. MARNDR has experience in managing IDA-financed operations and has most of the required FM arrangements in place, including adequate FM staffing to begin implementation and a Project Operational Manual (POM) that includes details of administrative, financial, and accounting procedures. However, given that the RESEPAG II PIU is already implementing an ongoing IDA-financed operation and in light of the emergency nature of the Project, and the expansion of activities to the Centre Department, the PIU/MARNDR staff may experience a sudden and significant increase in workload. This could slow down the implementation pace of the Project. In addition, the Project will have new activities whose implementation procedures will need to be detailed in the Project Operational Manual. Also, given the emergency nature of the Project, administrative challenges may arise in properly managing and monitoring the documentation of the temporary employment support to beneficiaries and distribution of in-kind subsidies (e.g., agricultural input packages). There could also be delays in preparing the annual work plan and budgets and reports on their execution, as the gathering of detailed information on regional activities may take time.

63. **To resolve these weaknesses and mitigate associated risks, the following actions will be undertaken after the Project becomes effective**: (i) recruit an accountant at the MARNDR Central PIU dedicated to the emergency Project; (ii) recruit FM staff for the new local PIU in the Centre Department; (iii) recruit an external auditor to conduct annual financial audits of the financial statements of the Project along with the review of the internal control system; (iv) update and adapt the POM with procedures to cover the additional activities under the emergency Project; (v) recruit independent agents to verify and review the records and controls related to local level activities; (vi) involve Irrigation Associations that have registers of intended beneficiaries, and other

potential project partners such as NGOs and producer organizations responsible for making payments under participatory community temporary employment programs and for distributing in-kind subsidies; and (vii) develop simplified accounting and documentation tools to help the Associations, producer organizations, NGOs and other partners accurately document payments and transfers to beneficiaries, under the supervision of the Local PIU.

64. **The PIU will be responsible for the day-to-day implementation of Financial Management (FM) activities**, including preparing an annual work plan and related budget, maintaining accounts associated with the Project's activities, generating Interim financial reports (IFRs) using the computerized financial management system and submitting them to IDA within 45 days of the end of each calendar quarter. It will ensure that annual financial statements are produced in a timely manner in accordance with accounting standards that are in effect in Haiti, and subject them, together with the internal control system, to an annual audit by a reputable and independent auditing firm based on Terms of Reference satisfactory to IDA. The Project will comply with the Bank's access to information and disclosure policies by making the opinion report for all disclosable audit reports promptly available to the public after receiving them. The Financial Management Action Plan and the Bank's FM Implementation Support plan for the Project are described in detail in Annexes 1 and 3.

(ii) Procurement

65. **The RESEPAG II PIU has acceptable procurement arrangements and capacity for the implementation of the Project**. The Procurement Capacity Assessment for the PIU was conducted in December 2021. The fiduciary staff of the PIU has more than a decade of knowledge of and experience with the Bank's policies and procedures for implementing projects financed by the Bank. The existing procurement arrangements will, therefore, be used for the Project, including simplified procurement procedures for the emergency response and Hands-on Expanded Implementation Support (HEIS). To manage the increased workload, the PIU's procurement capacity will be strengthened with the recruitment of additional procurement staff based in the Central PIU and/or the existing Local PIU, as well as in a new local PIU to be established in the Centre Department.

66. **The 'World Bank Procurement Regulations for IPF Borrowers' will apply to the Project.** Procurement for the Project will be carried out in accordance with the World Bank's Procurement Regulations for IPF Borrowers for Goods, Works, Non-Consulting and Consulting Services, dated July 1, 2016 (revised in November 2017, July 2018, and November 2020), hereafter referred to as Procurement Regulations.[43] The Project will be subject to the Guidelines on Preventing Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants. The Project will use the Systematic Tracking of Exchanges in Procurement (STEP) to plan, record, and track procurement transactions. A Project Procurement Strategy for Development (PPSD) satisfactory to IDA will be developed prior to Effectiveness. A procurement audit of all procurement activities implemented by the Project will be conducted once a year. Mandatory procurement prior review thresholds detailed in the World Bank Procurement Procedure, Annex I, will be observed. All procurement procedures, including roles and responsibilities of different units will be defined in the POM, which will detail the procedures to be used for procurement of goods, works, consultant services and non-consultant services by the PIU.

67. **Overall Fiduciary Risk is assessed as Substantial for the Project**, in line with the current fiduciary risk rating for the ongoing IDA-financed Resilient Productive Landscapes Project that is being implemented by the same FM and Procurement Unit.

[43] The updated version of the Procurement Regulations is available at: *https://worldbankgroup.sharepoint.com/sites/ppfonline/PPFDocuments/9ba99724aaa8408b9bc0926a17edba0f.pdf*.

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

68. **The Project has been screened for climate and natural disaster risks**. The climate-related and geophysical hazards that were identified as likely to be relevant to the project location include hydrometeorological events resulting in extreme precipitation and flooding, extreme temperatures, drought, sea-level rise, and geophysical hazards, and the Project's risk of exposure to these hazards is assessed as High. The potential impacts on project infrastructure and assets in the sub-sectors relevant to the Project (particularly livestock, crop and land management, irrigation and drainage, and storage and processing) are also assessed as High. Project-supported activities—such as climate smart agriculture technologies and strengthened rural infrastructure that improves water management and reduces land degradation—and the inclusion of wide-ranging capacity strengthening and emergency response support, including a CERC component, are seen as mitigating and reducing risk within the Project's immediate and broader development context. The risk analysis identified women as particularly vulnerable to the impacts of climate-related and geophysical hazards, but also determined that the Project contains components and activities that are expected to alleviate the risks to women from climate and geophysical hazards. This is the first project using the Environmental and Social Framework (ESF) under this PIU.

69. **Environmental risk is Substantial**. The majority of potential negative environmental impacts will most likely be minimal and localized with any negative impacts encountered likely to be reversible. These impacts include those related to disposal of any debris from minor infrastructure works and natural resource use risks, particularly for surface- and rain-fed water infrastructure being financed. In other situations, the range of activities undertaken will be expected to generate Moderate environmental risk. However, given the complex operating environment in Haiti and potential for negative impacts, especially through occupational health and safety (OHS) risks and impacts in the labor-intensive works to be carried out, the Project is assessed as carrying Substantial environmental risk. Also, while the Project will prioritize the adoption of climate-smart practices and technologies, there may be risks associated with improper fertilizer and/or pesticide use that could in turn impact watersheds or local biodiversity. Other potential negative risks and impacts could arise as a result of improper technology transfer (e.g., inadvertent propagation of exotic species, water harvesting that impacts the water table, etc.).

70. **Social risk is Substantial**. While the overall social benefits are expected to be positive, identified social risks and potential impacts include the following: (i) while rural areas have been relatively more insulated from the widespread socio-economic disruption experienced in Port-au-Prince during recent years, there have nonetheless been instances of protests and sporadic violence across the country that have impacted daily life, which poses a risk to smooth implementation of E&S requirements; (ii) there are social exclusion risks, especially for vulnerable stakeholders, including the risk that women, youth and persons with disabilities may not fully access the project benefits; (iii) perceived inequities in the selection of beneficiaries; and (iv) potential inadequate implementation of a robust stakeholder engagement strategy, including differentiated approaches to reach the most vulnerable stakeholders. That is why the Project will implement various strong grievance mitigation measures. Sexual Exploitation and Abuse and Sexual Harassment (SEA/SH) risks are assessed to be Moderate.

71. **Risk mitigation measures for the abovementioned environmental and social risks are set out in the Project's Environmental and Social Management Framework (ESMF) which includes Labor Management Procedures (LMP) and a Stakeholder Engagement Plan (SEP).** The commitments from these instruments are

captured in the Environmental and Social Commitment Plan (ESCP) and include: (a) comprehensive health and safety measures; (b) waste management guidelines; (c) labor and contract management procedures, including the enforcement of codes of conduct; (d) transparency, inclusiveness, and participation of beneficiaries in designing and implementing the project activities; (e) communication and stakeholder engagement activities to continue throughout project implementation; and (f) a grievance mechanism covering both workers and project stakeholders at large.

72. **The PIU will have a full-time environmental specialist, a full-time social specialist and a full-time gender specialist for the duration of project implementation**. These three specialists will be hired and appointed to the PIU not later than two (2) months after Effectiveness, under ToR and with qualifications satisfactory to IDA. The draft SEP and ESCP have been drafted and were disclosed by the Recipient and the Bank accordingly[44]. The ESMF (including the LMP) will be developed and disclosed for purposes of public consultations prior to Effectiveness. Following consultations, it will be finalized, adopted and publicly disclosed on the Project's website and the Bank's website within 60 calendar days of Project Effectiveness, as set forth in the ESCP. A detailed description of the risks and a summary of mitigation measures are included in the Bank's Environmental and Social Review Summary.

73. **The Project's SEP identifies project stakeholders, means to ensure effective project communication and consultation with each stakeholder group, and indicators to monitor its implementation**. All project supported interventions, including social and environmental risk management measures, will be disclosed and consulted to ensure that stakeholders' input is considered in project design and implementation arrangements. The Project will, for instance, support community outreach and engagement in the rollout of Project activities, a Grievance Redress Mechanism (GRM) and satisfaction surveys and will monitor the time taken and satisfaction with responses to registered grievances. This set of tools will be part of the Project's monitoring system, which will systematically flag any problems requiring adjustments in the delivery of the Project. As part of the SEP implementation, the Project will also support the establishment of a dedicated project website hosted by the MARNDR, which will include a description of project activities, key project documents, periodic updates on progress and results, and the grievance redress mechanism. During Project preparation, consultations were undertaken with key stakeholders on January 24-28th 2021 in the Sud, Grande-Anse, Nippes and Centre departments in order to inform project stakeholders on the design features of the project and solicit their feedback and suggestions on enhancing the project design. These consultations were undertaken by the regional offices of the ministry of agriculture and comprised local authorities, local and international CSOs and farmers organizations. The participants expressed strong support for the project and provided valuable insights to support deployment of project activities, in particular the need for strong beneficiary participation in the identification of activities to be financed under the project.

V. GRIEVANCE REDRESS SERVICES

74. 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

[44] The disclosed draft SEP is available at: https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099350102112228543/stakeholder0en0y0project000p177072
The disclosed Negotiated ESCP is available online at: *https://documents.worldbank.org/en/publication/documents-reports/documentdetail/099350003022242114/p1770720escp0negotiated0clean*

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

75. **The overall risk of the Project is assessed as Substantial**. Several risks to the Project, including risks related to sector strategies and policies, risks related to the technical design of the Project, risks related to institutional capacity for implementation and sustainability, and risks related to stakeholders are considered Moderate, in light of the Project's close alignment with well-established Government policies regarding food security and agriculture, and the fact that it is building on the experience and institutional capacity of existing operations that enjoy strong Government and community support. However, there are various sources of risk to the Project that are considered Substantial or even High, even after mitigation measures are considered. These risks, along with measures to address them, are discussed below.

76. **The Political and Governance risk is assessed as High**. Haiti's chronic political instability and volatile security situation can create bottlenecks and delays in implementation of the Project as well as unexpected realignments in the Government's policy objectives and in technical counterparts. Some of these risks will be mitigated by ensuring that activities undertaken under the Project will be key priorities supported by a broad range of stakeholders; proactive engagement with the Government as issues arise and regular consultations with agricultural roundtables, and adapting implementation modes and schedules to evolving situations. However, even with these mitigation measures, the risks to project implementation remain High.

77. **The Macroeconomic risk is assessed as Substantial,** due to the ongoing economic crisis, which has been compounded by the recent earthquake and tropical storms and by the COVID-19 pandemic. Macroeconomic risks could affect the Project via exchange rate volatility and continued inflation that could alter the projected costs of planned activities. To mitigate these risks, price and exchange rate volatility will be accounted for in the planning and budgeting of project activities.

78. **Fiduciary Risk is Substantial**. Based on recent experiences with ongoing projects, the Project includes key actions to reduce the inherent level of FM and procurement risk. However, even after mitigating measures that include strengthening fiduciary staffing and hiring independent verifiers, the residual risk is still considered Substantial, mainly in the areas of accounting and reporting, internal controls and auditing, and when the institutional capacity for implementing a greatly expanded operation is taken into consideration.

79. **Environmental and Social risks are rated Substantial.** The Project is expected to generate environmental benefits and the majority of potential negative environmental impacts will most likely be minimal and localized, while any negative impacts encountered are likely to be reversible. In other situations, the range of activities undertaken will be expected to generate Moderate environmental risk, but in light of the complex operating environment in Haiti and the potential for negative impacts especially through occupational health and safety (OHS) risks and impacts in the labor-intensive works to be carried out, the Project is currently assessed as carrying Substantial environmental risk. While the overall social benefits are expected to be positive, identified social risks and potential impacts include: (i) protests and sporadic violence across the country have impacted daily life, posing a risk to smooth implementation of E&S requirements; (ii) social exclusion risks especially for vulnerable stakeholders, including the risk that women, youth and persons with disabilities may not fully access the project benefits; (iii) perceived inequities in the selection of beneficiaries; and (iv) potential inadequate implementation of a robust stakeholder engagement strategy, including differentiated approaches to reach the most vulnerable

stakeholders. The environmental and social risk management instruments will present an overview of the main risks and potential impacts associated with the Project and will include robust mitigation measures in the ESMF which comprises a LMP and a SEP. Moreover, the ESMF and ESCP will provide for a series of capacity-building and institutional strengthening activities for implementing entities during project implementation.

80. **Other risks are assessed as High.** With the intensification of the country's political crisis since 2018, there have been large, violent demonstrations against fuel shortages, cost of living increases and corruption allegations, culminating in the complete paralysis of the economy in 2019, as well as a sharp and persistent increase in gang violence, which is deeply disrupting transit to, from and within Port-au-Prince. These risks will be partly mitigated by adding a new local PIU in the Centre Department in lieu of managing activities there from Port-au-Prince as was originally planned, and by adapting implementation modes and schedules to evolving situations. A second important risk is related to the COVID-19 pandemic: although the rate of new COVID-19 infections had dropped significantly in Haiti after peaking in mid-July 2020, a new wave is now ongoing with the new variant Omicron. The pandemic will continue to entail considerable costs, as containment measures are imposed to mitigate the spread of the virus, leading to restrictions on physical movements of people, goods, agricultural inputs and equipment, while there is a risk that project activities themselves could contribute to the spread of the disease. The impact of COVID-imposed restrictions will be partially mitigated through reliance on the local PIUs, including the new one to be established in the Centre Department, as well as on locally based partners and suppliers. Furthermore, all project-related activities will include hygiene and sanitary protocols in line with national regulations and international good practice and procedures for virtual and remote consultation.[45] A third significant risk is that Haiti is one of the countries with the highest exposures to climate-related and geophysical hazards in the world. These hazards (droughts, flooding, earthquakes etc.) have highly destructive impacts on the health and lives of vulnerable Haitians, as well as on their crops, livestock, landscapes and livelihoods. The poorest Haitians, including low-income women, children, and elderly people, are especially vulnerable to these hazards. These vulnerabilities will be mitigated by supporting the adoption of resilience-enhancing agricultural and landscape management practices, and by strengthening rural productive infrastructure. Additional measures include support for climate-resilient production value chain development to help reduce the impact of climate change in the target areas, as well as the inclusion of a CERC component in the Project.

[45] World Bank Group (March 2020) *Technical Note: Public Consultations and Stakeholder Engagement in WB-supported operations when there are constraints on conducting public meetings March 20, 2020.* Retrieved from: https://biwta.portal.gov.bd/sites/default/files/files/biwta.portal.gov.bd/page/f3ca1ff6_95b0_4606_849f_2c0844e455bc/2020-10-01-11-04-717aa8e02835a7e778b2fff46f531a8c.pdf

VII. RESULTS FRAMEWORK AND MONITORING

Results Framework
COUNTRY: Haiti
Emergency Resilient Agriculture for Food Security Project

Project Development Objectives(s)

The Project Development Objective (PDOs) is to support project beneficiaries' access to nutritious food, and increase climate- and nutrition-smart agricultural production, including in earthquake-affected areas.

Project Development Objective Indicators

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Support project beneficiaries' access to nutritious food							
Number of targeted beneficiaries with improved Food Insecurity Experience Scale (FIES) ratings (Number)		0.00	15,000.00	30,000.00	45,000.00	60,000.00	75,000.00
Proportion of targeted beneficiaries with improved FIES ratings that are female (Percentage)		0.00	55.00	55.00	55.00	55.00	55.00
Increase climate- and nutrition-smart agricultural production							
Farmers adopting improved agricultural technology (CRI, Number)		0.00	9,000.00	18,000.00	27,000.00	36,000.00	45,000.00
Farmers adopting improved		0.00	5,000.00	10,000.00	15,000.00	20,000.00	25,000.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
agricultural technology - Female (CRI, Number)							
Farmers adopting improved agricultural technology - male (CRI, Number)		0.00	4,000.00	8,000.00	12,000.00	16,000.00	20,000.00
Increase in the volume of nutritious agri-food products produced by targeted beneficiaries (Percentage)		0.00	0.00	15.00	20.00	30.00	30.00
Increase in the volume of nutritious agri-food products produced by targeted female beneficiaries (Percentage)		0.00	0.00	15.00	20.00	30.00	30.00
Promote access to nutritious food and increase agricultural production in earthquake-affected areas							
Area recovered for climate-smart agricultural production with Project support following damage by the August 14, 2021 earthquake (Hectare(Ha))		0.00	1,000.00	2,000.00	3,000.00	4,000.00	5,000.00
Area farmed by female beneficiaries recovered for agricultural production with Project support following damage by the August 14, 2021 earthquake (Hectare(Ha))		0.00	450.00	900.00	1,350.00	1,800.00	2,250.00
Number of targeted earthquake-affected beneficiaries with improved		0.00	5,000.00	10,000.00	15,000.00	20,000.00	25,000.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Food Insecurity Experience Scale (FIES) ratings (Number)							
Proportion of Targeted earthquake-affected beneficiaries with improved FIES ratings that are female (Percentage)		0.00	55.00	55.00	55.00	55.00	55.00

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Support project beneficiaries' access to nutritious food							
Person work-days generated by labor intensive public works programs (Days)		0.00	1,000,000.00	1,300,000.00	2,000,000.00	2,500,000.00	3,000,000.00
Person work-days generated for female beneficiaries by labor intensive public works programs (Days)		0.00	550,000.00	715,000.00	1,100,000.00	1,357,000.00	1,650,000.00
Area provided with new/improved irrigation or drainage services (CRI, Hectare(Ha))		0.00	100.00	200.00	400.00	600.00	800.00
Area provided with new irrigation or drainage services (CRI, Hectare(Ha))		0.00					0.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Area provided with improved irrigation or drainage services (CRI, Hectare(Ha))		0.00	100.00	200.00	400.00	600.00	800.00
Roads rehablitated (CRI, Kilometers)		0.00	0.00	10.00	25.00	40.00	50.00
Roads rehabilitated - rural (CRI, Kilometers)		0.00	0.00	10.00	25.00	40.00	50.00
Roads rehabilitated - non-rural (CRI, Kilometers)		0.00					0.00
Increased climate- and nutrition-smart agricultural production							
Farmers reached with agricultural assets or services (CRI, Number)		0.00	5,000.00	10,000.00	15,000.00	30,000.00	35,000.00
Farmers reached with agricultural assets or services - Female (CRI, Number)		0.00	2,750.00	5,500.00	8,250.00	16,500.00	19,250.00
Farmers reached with agriculture assets or services that reduce post-harvest losses (Number)		0.00	1,000.00	3,000.00	5,000.00	6,000.00	7,000.00
Female farmers reached with agriculture assets and services that reduce post-harvest losses (Number)		0.00	600.00	1,800.00	3,000.00	3,600.00	4,200.00
Farmers reached with assets and services that promote climate-resilient backyard production (Number) (Number)		0.00	1,000.00	3,000.00	5,000.00	7,000.00	8,000.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Female farmers reached with assets and services that promote climate-resilient backyard production (Number)		0.00	600.00	1,800.00	3,000.00	4,200.00	4,800.00
Promote access to nutritious food and increase agricultural production in earthquake-affected areas							
Area in earthquake-affected areas provided with improved irrigation or drainage services (Hectare(Ha))		0.00	500.00	1,000.00	1,600.00	2,000.00	2,700.00
Person work-days in earthquake-affected areas generated by labor intensive public works programs (Days)		0.00	500,000.00	650,000.00	1,000,000.00	1,250,000.00	1,500,000.00
Person work-days in earthquake-affected areas generated for female beneficiaries by labor intensive public works programs (Days)		0.00	275,000.00	360,000.00	550,000.00	690,000.00	825,000.00
Number of structures and cisterns rehabilitated in earthquake-affected areas (Number)		0.00	0.00	20.00	35.00	55.00	70.00
Area in earthquake-affected areas provided with soil conservation and land stabilization services (Hectare(Ha))		0.00	0.00	1,000.00	1,800.00	2,900.00	3,300.00
Farmers reached with agricultural assets and services in earthquake-affected areas		0.00	5,000.00	10,000.00	15,000.00	20,000.00	25,000.00

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
(Number)							
Female farmers reach with agricultural assets and services in earthquake-affected areas (Number)		0.00	2,750.00	5,500.00	8,250.00	11,000.00	13,750.00
Roads rehablitated (CRI, Kilometers)		0.00	10.00	20.00	30.00	40.00	50.00
Roads rehabilitated - rural (CRI, Kilometers)		0.00	10.00	20.00	30.00	40.00	50.00
Roads rehabilitated - non-rural (CRI, Kilometers)		0.00					0.00
Project Management, Monitoring and Evaluation, and Studies							
Grievances registered and addressed in a timely manner (within 14 days) (Percentage)		0.00	80.00	80.00	80.00	80.00	80.00
Grievances related to Gender-based Violence registered and addressed in a timely manner (within 14 days) (Percentage)		0.00	80.00	80.00	80.00	80.00	80.00
Percentage of beneficiaries satisfied with the project support. (Percentage)		0.00	75.00	75.00	75.00	75.00	75.00
Percentage of Female beneficiaries satisfied with the project support. (Percentage)		0.00	75.00	75.00	75.00	75.00	75.00
Management, monitoring and evaluation system implemented and functioning (Yes/No)		No	Yes	Yes	Yes	Yes	Yes
Contingency Emergency Risk							

Indicator Name	PBC	Baseline	Intermediate Targets				End Target
			1	2	3	4	
Emergency Operations Guidelines Prepared (Yes/No)		No	No	Yes	Yes	Yes	Yes

Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Number of targeted beneficiaries with improved Food Insecurity Experience Scale (FIES) ratings	Number of Households (HH) reached by the Project and with improved Food Insecurity Experience Scale (FIES) in the project areas, calculated on the basis of eight questions regarding people's access to adequate food. (http://www.fao.org/3/i7835e/i7835e.pdf) A baseline will be conducted to initially measure improvement in the score along with annual surveys	Annual.	Project's M&E system.	Beneficiary surveys based on the agreed methodology of 8 core questions.	PIU/Minisry of Agriculture (CNSA) or FAO
Proportion of targeted beneficiaries with improved FIES ratings that are	Female-headed Households (HH) with improved Food	Annual	Project's M&E system	Beneficiary surveys based on the agreed	PIU

female	Insecurity Experience Scale (FIES) in the project area, calculated on the basis of eight questions regarding people's access to adequate food.			methodology of 8 core questions	
Farmers adopting improved agricultural technology	This indicator measures the number of farmers (of agricultural products) who have adopted an improved agricultural technology promoted by operations supported by the World Bank. NB: "Agriculture" or "Agricultural" includes: crops, livestock, capture fisheries, aquaculture, agroforestry, timber and non-timber forest products. Adoption refers to a change of practice or change in use of a technology that was introduced or promoted by the project. Technology includes a change in practices compared to currently used practices or technologies (seed preparation, planting	Annual	PIU Surveys	PIU MIS system	PIU

	time, feeding schedule, feeding ingredients, postharvest storage/ processing, etc.). If the project introduces or promotes a technology package in which the benefit depends on the application of the entire package (e.g., a combination of inputs such as a new variety and advice on agronomic practices such as soil preparation, changes in seeding time, fertilizer schedule, plant protection, etc.), this counts as one technology. Farmers are people engaged in farming of agricultural products or members of an agriculture related business (disaggregated by men and women) targeted by the project.				
Farmers adopting improved agricultural technology - Female					
Farmers adopting improved agricultural technology - male					
Increase in the volume of nutritious agri-food products produced by targeted beneficiaries	Increase in the volume of products produced by beneficiaries. An index will	Annual	Project M&E system.	Project progress reports and beneficiary surveys.	PIU

	be developed by weighting 10 key commodities based on a baseline that will be conducted. An increase in each production will be adjusted based on this weighting to calculate the volume increased in production				
Increase in the volume of nutritious agri-food products produced by targeted female beneficiaries	Increase in the volume of products produced by female beneficiaries	Annual	Project's M&E system	Project progress reports and beneficiary surveys.	PIU
Area recovered for climate-smart agricultural production with Project support following damage by the August 14, 2021 earthquake	Land area in earth-quake affected areas receiving improved production support to restart production and area recovered due to infrastructure rehabilitation	Semi-annual	Project M&E system	Project progress reports	PIU
Area farmed by female beneficiaries recovered for agricultural production with Project support following damage by the August 14, 2021 earthquake					
Number of targeted earthquake-affected beneficiaries with improved Food Insecurity Experience Scale (FIES) ratings	Number of Households (HH) reached by the Project and with improved Food Insecurity Experience Scale (FIES) in the earthquake-	Annual	Project M&E system	Benficaiy surveys	PIU

	affected , calculated on the basis of eight questions regarding people's access to adequate food. (http://www.fao.org/3/i7835e/i7835e.pdf) A baseline will be conducted to initially measure improvement in the score along with annual surveys				
Proportion of Targeted earthquake-affected beneficiaries with improved FIES ratings that are female	Share of female-headed Households (HH) in earth-quake affected areas with improved Food Insecurity Experience Scale (FIES) in the project area, calculated on the basis of eight questions regarding people's access to adequate food.	Annual	Project's M&E system	Beneficiary surveys based on the agreed methodology of 8 core questions.	PIU

Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Person work-days generated by labor intensive public works programs	Number of person work-days generated for target beneficiaries though emergency cash-for-work schemes.	Semi-annual.	Project M&E system	Project progress reports	PIU

Person work-days generated for female beneficiaries by labor intensive public works programs	Number of person work-days generated for female beneficiaries though emergency cash-for-work schemes. Calculated by the sum of (Number of jobs provided* days worked)	Semi-annual.	Project M&E system.	Project progress reports	PIU
Area provided with new/improved irrigation or drainage services	This indicator measures the total area of land provided with irrigation and drainage services under the project, including in (i) the area provided with new irrigation and drainage services, and (ii) the area provided with improved irrigation and drainage services, expressed in hectare (ha).	Annual	Project status updates	Reports from technical/extension staff	PIU
Area provided with new irrigation or drainage services	Measures in hectares the total area of land provided with new or improved irrigation or drainage services in operations supported by the World Bank.	Annual	Project status updates	PIU Data/Reports from technical/extension staff	PIU
Area provided with improved irrigation or drainage services	Measures in hectares the total area of land provided with new or improved irrigation or drainage services in operations supported by the World	Annual	Project status updates	PIU Data/Reports from technical/extension staff	PIU

	Bank.				
Roads rehablitated		Annual	Project status updates	Reports from technical/extension staff	PIU
Roads rehabilitated - rural		Annual	PIU Data/Reports from technical staff	Surveys	PIU
Roads rehabilitated - non-rural		Annual	PIU Data/Reports from technical staff	Surveys	PIU
Farmers reached with agricultural assets or services	This indicator measures the number of farmers who were provided with agricultural assets or services as a result of World Bank project support. "Agriculture" or "Agricultural" includes: crops, livestock, capture fisheries, aquaculture, agroforestry, timber, and non-timber forest products. Assets include property, biological assets, and farm	Semi-annual	Project status updates	Reports from technical/extension staff	PIU

	and processing equipment. Biological assets may include animal agriculture breeds (e.g., livestock, fisheries) and genetic material of livestock, crops, trees, and shrubs (including fiber and fuel crops). Services include research, extension, training, education, ICTs, inputs (e.g., fertilizers, pesticides, labor), production-related services (e.g., soil testing, animal health/veterinary services), phyto-sanitary and food safety services, agricultural marketing support services (e.g., price monitoring, export promotion), access to farm and post-harvest machinery and storage facilities, employment, irrigation and drainage, and finance. Farmers are people engaged in agricultural activities or members of an agriculture-related business (disaggregated by men and women) targeted by the project.				

Farmers reached with agricultural assets or services - Female		Semi-annual	Project status updates	Reports from technical/extension staff	PIU
Farmers reached with agriculture assets or services that reduce post-harvest losses	This indicator will measure the number of farmers benefiting from the rehabilitation of post-harvest facilities	Annual	PIU Data/Reports from technical/extension staff	Surveys	PIU
Female farmers reached with agriculture assets and services that reduce post-harvest losses	This indicator will measure the number of female farmers benefiting from the rehabilitation of post-harvest facilities	Annual	PIU Data/Reports from technical/extension staff	Surveys	PIU
Farmers reached with assets and services that promote climate-resilient backyard production (Number)	This indicator will measure the number of farmers benefiting from input packages, equipment, small structures, TA and training to promote climate-resilient backyard production	Annual	PIU Data/Reports from technical/extension staff	Surveys	PIU
Female farmers reached with assets and services that promote climate-resilient backyard production	This indicator will measure the number of female farmers benefiting from input packages, equipment, small structures, TA and training to promote climate-resilient backyard production	Annual	PIU Data/Reports from technical/extension staff	Surveys	PIU

Area in earthquake-affected areas provided with improved irrigation or drainage services	This indicator measures the total area of land in earth-quake affected areas provided with irrigation and services under the project, including in the area provided with improved irrigation, expressed in hectare (ha).	Semi-annual.	Project M&E system.	Project progress reports	PIU
Person work-days in earthquake-affected areas generated by labor intensive public works programs	Number of person work-days generated for target beneficiaries through emergency cash-for-work schemes. in earthquake-affected areas	Semi-Annual	Project Status Report	Updates from PIU reports	PIU
Person work-days in earthquake-affected areas generated for female beneficiaries by labor intensive public works programs	Number of person work-days generated for target female beneficiaries through emergency cash-for-work schemes. in earthquake- affected areas	Semi-Annual	Updates from PIU reports	PIU Data/Reports from technical/extension staff	PIU
Number of structures and cisterns rehabilitated in earthquake-affected areas	Community-level structures and cisterns repaired that were destroyed by the earthquake	Annual	Project status updates	Reports from technical/extension staff	PIU
Area in earthquake-affected areas provided with soil conservation and land stabilization services	Area in earthquake-affected areas provided with soil conservation and land stabilization services	Semi-annual	Project Status Reports	Status Updates/PIU Database	PIU
Farmers reached with agricultural assets and services in earthquake-affected areas	Farmers reached with agricultural assets and	Semi-Annual	Project Status	PIU Records	PIU

	services in earthquake-affected areas (including inputs and technical assistance)		Updates/PIU Database		
Female farmers reach with agricultural assets and services in earthquake-affected areas	Female farmers reached with agricultural assets and services in earthquake-affected areas (including inputs and technical assistance)	Semi-Annual	Project Status Updates/PIU Database	PIU Records	PIU
Roads rehablitated		Annual	PIU Data/Reports from technical staff	Surveys	PIU
Roads rehabilitated - rural		Annual	PIU Data/Reports from technical staff	Surveys	PIU
Roads rehabilitated - non-rural		Annual	PIU Data/Reports from technical staff	Surveys	PIU
Grievances registered and addressed in a timely manner (within 14 days)	Percentage of grievances registered and addressed within 14 days of	Monthly	GRM reports and Project M&E		PIU

	registration.		system		
Grievances related to Gender-based Violence registered and addressed in a timely manner (within 14 days)	Grievances resolved specific to Gender Based Violence	Semi-Annual	PIU Record	PIU Database	PIU
Percentage of beneficiaries satisfied with the project support.	Percentage of beneficiaries satisfied with the support received from the project.	Annual	Project M&E system, and beneficiary surveys.	Surveys.	PIU
Percentage of Female beneficiaries satisfied with the project support.	Percentage of female beneficiaries satisfied with the support received from the project.	Annual	Project M&E system, and beneficiary surveys	Surveys	PIU
Management, monitoring and evaluation system implemented and functioning	This indicator will measure when the Project MIS becomes functional	Annual	PIU Reports	PIU Updates	PIU
Emergency Operations Guidelines Prepared	Emergency Operations Guidelines which form part of the required package for the activation of the CERC if needed have been prepared	Annual	PIU Discussion	Discussion/Document Review	PIU

ANNEX 1: Implementation Arrangements

COUNTRY: Haiti
Emergency Resilient Agriculture for Food Security Project

A. Project Institutional and Implementation Arrangements

1. **The agency with overall responsibility for the Project is the Ministry of Agriculture, Natural Resources and Rural Development (MARNDR).**

2. **Strategic and operational guidance for the Project will be provided by the Project Steering Committee (PSC).** The PSC will be chaired by MARNDR and will include representatives of the National Food Security Commission (CNSA); the Ministry of Finance; the Directors of the Agricultural Departments for Grand'Anse, Les Nippes, Sud and Centre, and the PIU Director. The final composition of the PSC will be determined and recorded in the POM. The PSC will meet at least twice per year, and the chair of the PSC will convene additional meetings and invite technical experts to participate as needed. The PSC will be responsible, *inter alia*, for: (i) providing strategic oversight and guidance to the Project; (ii) supervising the implementation and monitoring the performance of the Project; (iii) identifying, in cooperation with IDA, any necessary adjustments to the project design or implementation plan, based on the performance monitoring results; and (iv) approving the Project's annual work plans and budgets, to be prepared by the Project Implementation Unit (PIU). The secretariat for the PSC will be provided by the PIU of the Project (see Figure A1.1 below).

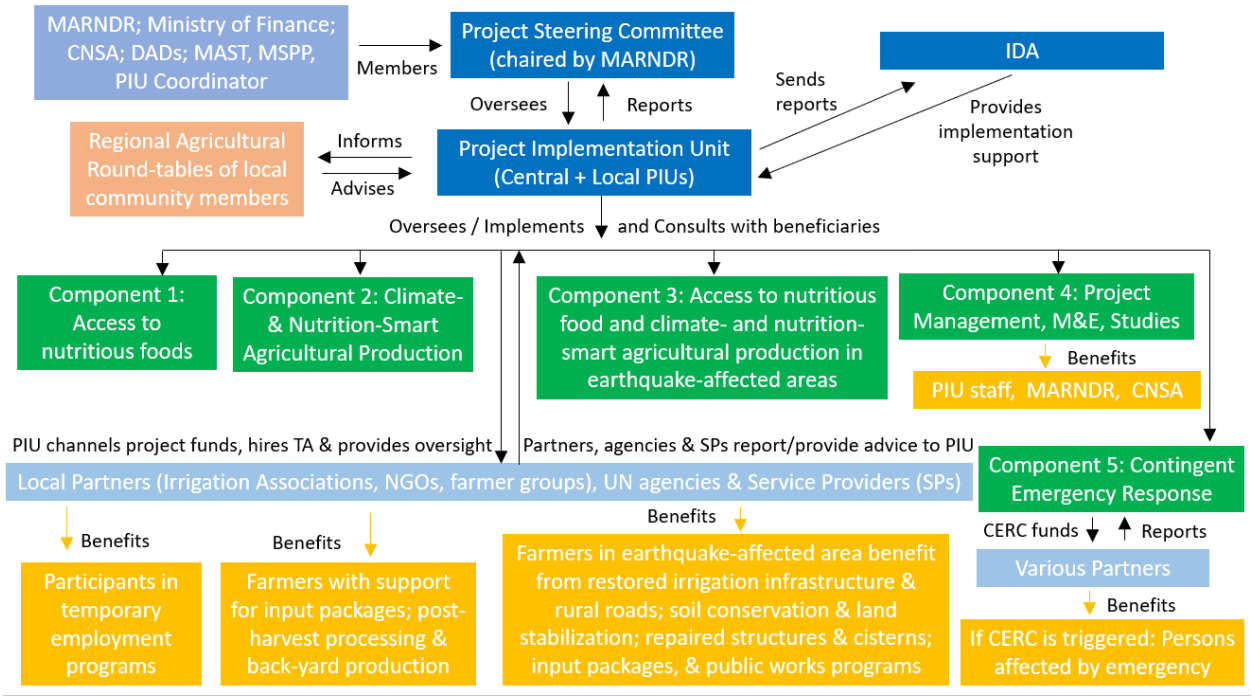
3. **The Project will also draw on regional agricultural consultation roundtables to maintain a continuous dialogue with stakeholders on the Project.** The roundtables comprising representatives of local agricultural communities will be convened at convenient locations in each Department by the PIU and will be inclusive in terms of gender, ages and other factors (e.g., persons with disabilities). Participants will receive and disseminate information on project plans and provide feedback on behalf of key project stakeholders. Specific consultations will also be undertaken with individual Irrigation Associations and other associations of farmers for the prioritization, design, implementation and selection of specific beneficiaries for activities directed at the areas covered by those Irrigation Associations or farmer groups.

4. **The Project will be implemented by MARNDR's RESEPAG-II PIU, which has a strong and experienced team.** The PIU is located in two places: (i) at the central level *(Unité de Gestion de Projet Centrale; PIU-C)* in Port-au-Prince, and (ii) at the local level *(Unité de Gestion de Projet Locale; PIU-L)*, in the Department of le Sud near the areas of project interventions. Both units are fully staffed with appropriate expertise, although the Project will strengthen the fiduciary and safeguards staffing as needed to manage the additional workload. The PIU (between the Central and Local Units) will continue to include at a minimum staff with the following positions/skills: PIU Coordinator, FM Specialist, an Assistant FM Specialist, Procurement Specialist, Monitoring and Evaluation Specialist, Environmental Specialist, Social Specialist, Gender Specialist/Focal Person, Communications Specialist, Agri-business specialist, and an Accountant. An additional local PIU, PIU-L, will be established in the Centre Department with appropriate staffing to oversee the implementation of project activities in that Department.

5. **The PIU will be responsible for the following key activities**, *inter alia*: (i) preparation of an annual work plan and budget *(plan de travail et du budget annuel, PTBA)*; (ii) managing financial management (FM) and procurement activities for the Project; (iii) ensuring implementation and monitoring of the Environmental and Social Management Framework (ESMF); (iv) ensuring gender gaps are addressed in project activities; (v) communications outreach to beneficiary communities, including providing timely information to the members of

the agricultural consultation roundtables and seeking/incorporating their feedback into the planning of project activities; (vi) administering the Project's monitoring and evaluation (M&E) system, and (vii) organizing all project-related work and reporting. The Project Operational Manual (POM) which is already strong, is being finalized to incorporate all operational details required at the national and local levels, including procedures for the implementation of technical activities, M&E, environmental and social risk management, administrative and fiduciary functions, Do No Harm protocols in relation to COVID-19, and the Grievance Redress Mechanism.

Figure A1.1 - Organizational Chart for the PARSA Project



6. **The responsibility for the preparation of an annual work plan and budget *(plan de travail et du budget annuel, PTBA)* will be with the PIU.** The different stages of budget preparation and management (preparation, review, adoption, and execution) are detailed in the FM section of the POM, which is being finalized. The annual work plan and budget will be prepared each year in consultation within MARNDR and submitted to a first level of approval by the PSC and then resubmitted to IDA for a second level of approval (Notice of Non-Objection). Each PTBA approval process at every level must be triggered within a reasonable time to facilitate the PTBA's inclusion in the national finance law for the next fiscal year. A budget execution report will be included in the documentation to allow monitoring of project implementation.

7. **Project-level Monitoring and Evaluation (M&E) will continue to apply the arrangements currently being used by the RESEPAG II PIU for the ongoing projects.** The PIU's M&E team will continue to use the Kobo Toolbox for this purpose, in line with the M&E manual contained in the POM. The M&E system will capture information on project results against the intermediate output and final outcome targets established in the Results Framework (RF). This information will be included in the Project's Progress Reports, which will be prepared for each semester of project implementation and will be submitted to IDA no later than 45 days after the end of the period covered by the reports. A baseline survey will be conducted immediately after Effectiveness and beneficiaries will be surveyed annually again until Year 5 (at Project Closing) to track changes in their livelihood conditions attributable

to the Project. In addition to regular monitoring and reporting on the agreed project indicators, the Progress Reports will report on financial management, procurement, and implementation of the ESCP.

8. **The Project will collaborate with a range of local partners for the implementation of the various components**. For example, the Project will enter into agreements with local Irrigation Associations for implementing temporary employment programs related to repairs of irrigation infrastructure in irrigation perimeters. The Irrigation Associations will be responsible for making payments to registered members of their Associations for their participation in the community works programs, and for the distribution of in-kind subsidies (input packages and equipment) to their members. The works will be supervised by the PIU with support from Departmental Agricultural Directorates and the Municipal Agricultural Offices, under the overall guidance of MARNDR's Directorate for Agricultural Infrastructure. The PIU will transfer advances and reimbursements to the accounts of the Irrigation Associations upon proper accounting of their expenditures and activities. The Project will also contract producer organizations and experienced local NGOs for implementing temporary employment programs beyond the irrigated perimeters and for the transfer of inputs and technical knowledge for restoring agricultural production, post-harvest handling and processing, and back-yard production. The support of local watershed management committees, together with teams from the Ministry of Environment, will also be engaged for soil conservation works. The Project will also enter into contracts with NGOs and/or private suppliers of inputs and marketers for the provision and distribution of input packages, equipment and technical knowhow to restart production and strengthen post-harvest value addition. The engagement of UN agencies, such as FAO, WFP and UNOPS will also be considered to deepen the pool of qualified local partners and providers of TA. The PIU, with support from local authorities, will supervise the implementation of activities by the local partners, while the quality of seeds will be monitored by the National Seeds Service. Irrigation works involving more technical complexity will involve procuring the services of NGOs, engineering firms, and engineering supervisory firms. With the exception of these contracts, and in light of the emergency context, the procurement arrangements for contracts involving most local providers will follow simple practices used successfully in previous IDA-financed projects, as described in the procurement section below.

9. **Procedures for engaging with partners and ensuring that resources reach targeted beneficiaries will build on existing experiences and be described in detail for each area of support in the Project Operational Manual**. As an example, the procedures for providing input supplies under Component 2 in the form of in-kind subsidies for the production of seeds and seedlings will include the following steps:

- The PIU enters into a contract or Memorandum of Understanding with local input suppliers (retailers) to acquire and distribute the seeds to targeted farming households.
- As most local suppliers do not yet have the necessary financial capacity to source seeds directly, the PIU will procure/acquire the necessary quantity of seeds from wholesale suppliers or from local suppliers who have larger stocks.
- The quality of seeds will be reviewed/certified by the National Seeds Service.
- The PIU will have the seeds delivered to local suppliers (retailers) according to the contracted quota (number of beneficiaries) allocated to each local supplier.
- On the basis of the list of beneficiary farmers (with their respective identification numbers), the local retailers will ensure storage and distribution of the seeds to beneficiary farmers, who will certify (sign/record) their receipt of the seeds, to be recorded via the Kobo Toolbox.
- The provision of seeds to farmers will then be verified by the Local PIU, and once verified, the list of beneficiary farmers and of the suppliers to be paid will be sent to the Central PIU.
- The Central PIU will review the lists and then authorize/issue payment to the local suppliers. In this case, the payment will correspond to the costs of storage and distribution of the seeds, with profit margins not to

exceed 20 percent.

10. **The existing Project Operational Manual for RESEPAG II, has been used to prepare the POM for the Project.** It incorporates all operational details required at the national and local levels, including procedures for the implementation of technical activities, addressing gender gaps, M&E, safeguards, and administrative and fiduciary functions. The POM will be finalized by March 30, 2022 and adopted by the Recipient as a condition of disbursement of Category 1 of the Grant, in a manner satisfactory to IDA. The PARSA Project will also rely on a range of mechanisms, documents and protocols that have been developed and applied successfully under the RESEPAG and RPL projects, including: (i) MARNDR's Farmer Subsidy Scheme Manual; (ii) the Community Participatory Work Manual; (iii) the RPL/RESEPAG Operations Manual for the incentives, livestock, and participatory works; (iv) draft Terms of Reference (ToRs) for Operators' Contracts and draft of ToRs for detailed studies, technical assistance and supervision; (v) models of protocols with Irrigation Associations, NGOs and producer organizations, and (vi) the National Farmer Registry that has been completed for the Grand'Anse, Les Nippes and Sud Departments.

11. **The Project will be implemented over a five-year period.** The Closing Date of the Project will be February 26, 2027.

B. Financial Management and Disbursement

12. The FM risks and mitigation measures are described in the following table:

Table A1.1 - Assessment Table and Mitigation Measures of Project Risks

Risk type[46]/Description	Risk Rating	Risk mitigating measures incorporated into project design	Residual Risk Rating
Inherent risk	H		S
Country level: Chronic country fragility characterized by socio-political instability, weak governance and accountability, macroeconomic stability and sustainability risks remain high; these risks are complemented by high vulnerability to natural disasters. These risks may disrupt project implementation and delay the achievement of development objectives.	H	The Project will be implemented using a dedicated implementing unit with a solid internal control environment based on international standard. Country systems will only be relied on if deemed appropriate and consistent with the design and objectives of the Project. With regard to vulnerability to natural disasters, GoH, in partnership with various donors, has developed a national plan to address the risks arising from natural disasters.	H
Entity: The MARNDR PIU is currently implementing two IDA-financed projects (RESEPAG II and RPL). Work overload for current staff may slow down the implementation rate of the emergency project activities.	S	Additional staff dedicated to the emergency Project will be hired based on ToR acceptable to IDA to handle additional workload, including for the new PIU-L in the Centre Department. The Internal controls are established, and all procedures are clearly documented in the Project Operational Manual (POM), which will help new staff adapt readily to new roles.	M

[46] The **FM inherent risk** is that which arises from the environment in which the Project is situated. The **FM control risk** is the risk that the Project's FM system is inadequate to ensure project funds are used economically and efficiently and for the purpose intended. The **overall FM risk** is the combination of the inherent and control risks as mitigated by the client control frameworks. The **residual FM risk** is the overall FM risk as mitigated by the Bank's supervision efforts.

Risk type/Description	Risk Rating	Risk mitigating measures incorporated into project design	Residual Risk Rating
Control risk	S		M
Project: The key components of the Project include creating temporary employment for households in food-insecure areas through community participatory work programs, both for rural infrastructure and supporting activities. Various types of farm tools, equipment and inputs will be provided to farmers for the adoption of climate-smart technologies. Households employed through community participatory work may not be fully documented and accounted for. Equipment to farmers may also not be fully documented.	H	At the local level, the MARNDR PIU currently uses the services of independent verifiers who review transactions related to community activities. The independent verifiers will prepare bi-annual reports on the status of activities at the local level and will review the internal controls in place at the local level related to the temporary employment programs and the distribution of in-kind subsidies. The procedures for handling payments for community participatory work and for distribution of in-kind subsidies and for recording them will be documented in the Project Operational Manual. The Farmer Subsidiary Scheme Manual and the Participatory Work Manual will be updated accordingly.	S
Budgeting: The Project will be financed entirely with IDA grant proceeds from the CRW ERF. There may be delays preparing the annual operational plans and budgets because there are many local-level activities which may not be consolidated in time for overall budget preparation. During project implementation, there may be deviations in executing the budget as some activities may not be implemented as planned, given the emergency nature of the operation.	M	The operational plan and budget will be prepared in advance of the beginning of the fiscal year. It will be submitted to IDA for its no-objection and will be monitored periodically (quarterly and bi-annually), via overall and fiduciary supervision and the review of project progress and financial reports (quarterly interim unaudited financial reports and annual audits). The POM will clearly establish the timelines for annual work plan and budget preparation, as well as responsibilities for preparation, execution, and monitoring of project activities.	M
Accounting: PIU/MARDNR has recently installed and programmed the ACCPAC accounting software for use in recording various project transactions. However, given the increasing volume of work, the PIU FM team may experience delays in the recording of the financial information and the analysis of the financial information and to produce reports in a timely manner. Accounting for beneficiary payment may not be accurately recorded and documented.	S	An Accountant dedicated fully to the new Project will be recruited at the Central PIU level, based on ToR acceptable to IDA. The Irrigation Associations, producer organizations, NGOs and other implementation partners will be provided with simplified tools for documenting cash transfers and the distribution of in-kind subsidies to ensure all payments and in-kind subsidies are received by the rightful beneficiaries and are correctly documented at levels of the respective implementation partner, the Local PIU and the Central PIU.	M
Internal Controls: Not all processes for the activities under the new Project may be included in the current POM. Components 1 and 2 of the Project have activities that are mostly implemented at the local level. Due to the emergency nature of the Project, controls may not always be adhered to. Also, the personnel working at the local level may not have adequate capacity to sufficiently handle the emergency activities.	H	The POM is under preparation. It borrows from the current RESEPAG II POM and will detail the procedures for the activities under the Project (details in recording community works program beneficiaries and the distribution of in-kind subsidies, *inter alia*). Independent verifiers will audit the transactions related to activities at the local level as well as the applicable controls and will prepare biannual reports on local level activities and on adherence to internal control procedures. Any gaps identified in the process may be used as the basis for capacity building for personnel working on local level activities.	S

Risk type/Description	Risk Rating	Risk mitigating measures incorporated into project design	Residual Risk Rating
Funds Flow: The PIU is responsible for implementing other projects whose funds may be comingled with the Project's funds. Most of the project funds are to be used in Components 1 and 2, with activities at the local level. There may be delays in using the funds for the intended purposes due to delays in implementation. Also, funds transferred to the local level may not be accounted for in a timely manner.	S	In addition to a Designated Account (DA) that will be opened at the Central Bank of Haiti, two operational accounts will be opened in Haitian Gourdes (local currency) to pay for transactions at the central and local levels. The Local PIUs will each have accountants to ensure funds are allocated to activities planned in the annual work plan and budget, and that transactions are recorded and reported in a timely manner. Independent verifiers will review the activity execution and report on the community participatory activities. Beneficiaries of the temporary employment program and of the distribution of in-kind subsidies will be identified with the help of local partners (e.g., Irrigation Associations) that will be responsible for making payments for temporary employment to beneficiaries and for distributing in-kind support to selected farmers. The local partners will have an operational account that will receive transfers and that will be replenished on a regular basis once expenditures have been accounted for. Procedures for the flow of funds at the regional/ local level will be clearly documented in the POM.	M
Financial Reporting: The limited number of FM staff at the Central PIU may result in delays in recording and consolidating the Project's financial data, and in preparing and submitting Interim Financial Reports (IFRs) within the agreed timelines.	S	An accountant will be recruited based on ToR acceptable to IDA and will be dedicated fully to the emergency Project. All PIU FM staff will receive ACCPAC users training to be able to efficiently use the accounting software to produce the required financial reports for IFRs, as well as year-end financial statements for audit purposes. The accountants at the local PIUs will ensure the transmission of financial data to the Central PIU for consolidation purposes in a timely manner. Simplified accounting/ reporting forms will be developed to facilitate reporting of beneficiary payments by local partners (including Irrigation Associations, producer organizations, NGOs, etc.). Copies of these forms will be transmitted to the Local and Central PIUs for expense documentation.	M
Auditing: The information included in the annual financial reports may not be reliable and the audit firms may not be able to provide consistent opinions, sound internal control system analyses and related recommendations, due to limitations in the quality of audit firms operating in Haiti.	H	A review of the quality of audit firms was carried out in 2020 in collaboration with the Interamerican Development Bank (IDB) to identify weaknesses in audit firm capacity and measures to address them. An external auditor will be recruited in line with the findings of the assessment, based on ToR acceptable to IDA.	S

Note: H = high; S = substantial; M = moderate; L = low

7. **The FM risk is High, and the residual FM risk after the mitigation measures is deemed Substantial.** The following Financial Management Action Plan contains measures designed to mitigate these risks.

Table A1.2 - Financial Management Action Plan

Action to be undertaken	Timeframe	Responsible body
1- Recruit an accountant dedicated to the Project based on ToR acceptable to IDA, and recruit new FM staff for the PIU-L in the Centre Department.	No later than two months after Effectiveness	MARNDR PIU
2- Recruit an external auditor to conduct annual financial audit of the financial statements of the Project along with the review of the internal control system based on ToR acceptable to IDA.	Within four months of Effectiveness	MARNDR PIU
3- Complete the recruitment of independent verifiers who will check transactions at local level and prepare regular reports.	Within two months of Effectiveness	MARNDR PIU
4- Update the current POM to include the activities of the Project and associated FM arrangements.	By March 30, 2022	MARNDR PIU

Financial Management and Disbursement Arrangements

Financial Management Arrangements

8. **The FM arrangements at the existing RESEPAG II PIU at MARNDR for the Project meet the minimum fiduciary requirements under Bank guidelines for Investment Project Financing.** Implementation arrangement details are as explained in the sections below:

9. ***Staffing.*** The PIU Coordinator will have overall responsibility for the Project, including the FM functions. The PIU's FM team is composed of an FM Specialist, an Assistant FM Specialist, two Administrative Assistants, one Logistician, and one secretary/receptionist. An additional Accountant will be hired in the Central PIU to increase staff capacity for the additional expected workload and will be dedicated fully to the Project. At the Local PIU there is currently one regional accountant. The recruitment process for a second local accountant is ongoing. In addition, local accountants will be recruited for the new local PIU in the Centre Department. The FM team will ensure the transmission of financial data, archiving of financial data, and additional controls to be implemented to ensure the accuracy and completeness of the Project's financial data. This also includes ensuring that every transaction is duly authorized and properly recorded and that assets are safeguarded.

10. ***Budgeting Process.*** The overall responsibility for preparing annual budgets and work plans will be with the Central PIU. The budget process will be clearly stipulated in the Project Operational Manual. Annual budgets and work plans will be coordinated and prepared/consolidated by the accounting unit together with the procurement team and submitted to IDA for approval (no-objection). The PIU Coordinator will have oversight over the preparation of annual budgets and work plans. These will be prepared before the beginning of the fiscal year and submitted to IDA for approval (no-objection). Any subsequent changes in the budget and work plans will also be submitted to IDA for no-objection.

11. ***Accounting Policies and Procedures.*** The Project will use Cash Basis Accounting for the preparation of the Project's quarterly interim financial statements and audited annual financial statements, in accordance with the International Public Sector Accounting Standards (IPSAS) and the National Accounting Standards. The Project Operational Manual will contain a financial management section, which will detail appropriate accounting policies and financial reporting procedures. The PIU's FM team will continue to review the current policies and procedures based on external auditor's recommendations in the management letter and the action plans agreed-up during IDA supervision missions. Procedures to improve the internal control procedures will be included in the POM. The

Project Operational Manual (currently used under the RESEPAG II and RPL Projects) will be updated to include new activities under the Project. The POM update will be completed within two months of Effectiveness. The PIU will develop simplified accounting tools (whose format will be included in the POM) to facilitate accounting and documentation of payments to beneficiaries for participatory community works programs and for the distribution of in-kind subsidies (such as input packages).

12. ***Accounting System.*** The PIU's FM team will assume the overall responsibility for maintaining accounts associated with project activities and ensuring that annual financial statements are produced in a timely manner. The PIU has recently acquired a new ACCPAC accounting software. The newly installed and programmed ACCPAC accounting system will be used to produce monthly, quarterly, and annual financial statements that conform to the agreed format. With the newly installed ACCPAC accounting software, the Project's financial reporting is expected to be in accordance with the Bank's financial management requirements.

13. ***Internal Controls.*** The internal control procedures as well as the internal audit processes are outlined in the Project Operational Manual. The PIU will retain the internal audit function, with an internal auditor reporting to the Project Steering Committee. The internal auditor will conduct *ex post* reviews of project transactions. In addition, the Internal Auditor will conduct a periodic review of the continuing adequacy of the internal control environment in general and report on its state to the PIU management and the Project Steering Committee. The Local PIU will use the services of independent verifiers to ensure transactions are correct and up to date and that activities involving beneficiaries are documented accurately. They will prepare regular progress reports for the Local and Central PIU.

14. ***Reporting arrangements.*** Interim Financial Reports are being prepared and submitted regularly and in a timely manner to IDA by MARNDR's PIU for the existing IDA-financed projects. The IFRs include financial information at the local level which account for advances to fund activities at the local level. Under the Project, IFRs will be submitted to IDA no later than forty-five (45) days after the end of each calendar quarter. At the local level, the Irrigation Associations, NGOs, producer organizations and other selected partners will be responsible for cash payments and for the distribution of in-kind subsidies to beneficiaries. Simplified accounting/reporting forms will be developed to facilitate reporting of beneficiary payments by these local partners. Copies of these forms will be transmitted to the Local and Central PIUs for expense documentation. The Geo-enabling initiative for Monitoring and Supervision (GEMS) ICT tool will also be used as a project monitoring and supervision mechanism.

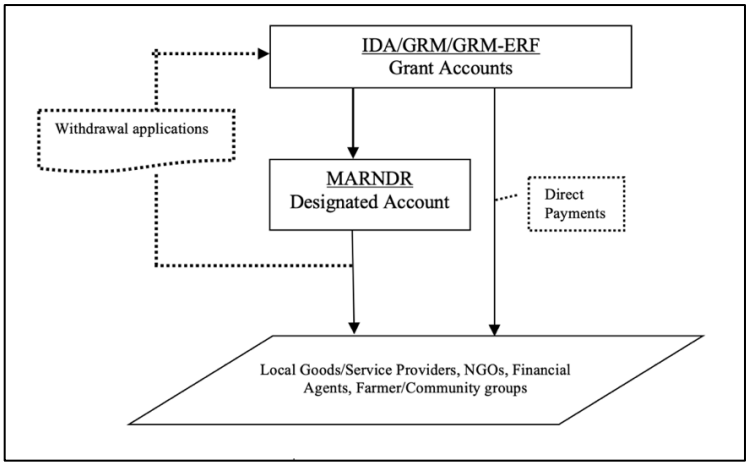
15. ***Auditing Arrangements.*** Annual audited financial statements for the Project will be transmitted to IDA not later than six (6) months after the end of the Recipient's fiscal year. The external audit of the project annual financial statements will be carried through the services of a private audit firm procured in accordance with independence and competency criteria acceptable to IDA.

Disbursement Arrangements and Flow of Funds

16. **The primary disbursement methods will be Advances, Direct Payments, Reimbursements and Special Commitments.** To facilitate timely disbursements for the Project's eligible expenditures, when the status of the portfolio allows, the Recipient, through MARNDR's PIU, will open and operate a segregated Designated Account (DA) in US dollars, at the Central Bank of Haiti (*Banque de la République d'Haïti/BRH*). Subsequently, the PIU will open two other accounts denominated in Haitian Gourdes (HTG) at BRH, one at the Central level and another one at the Local level. The PIU will also manage the accounts denominated in Haitian Gourdes (HTG) at BRH to process local payments. The PIU will be responsible for the appropriate accounting of the funds deposited into the Designated Account, for reporting on the use of these funds and for ensuring that they are included in the audits

of the financial statements. The ceiling for the DA and the Minimum Application size for Direct Payment or Special Commitments will be communicated in the Disbursement and Financial Information Letter (DFIL). Beneficiaries of the temporary employment program and farmers who will receive in-kind subsidies will be identified with the help of local Irrigation Associations that maintain registries of their members, as well as by other local partners, e.g., NGOs or producer organizations. The local partners will be responsible for making payments under temporary employment programs to targeted beneficiaries as well as for distributing in-kind subsidies to selected farmers. They will have an operational account and will be provided funds that will be replenished on a regular basis once expenditures are accounted for. The simplified flow of funds is illustrated in Figure A1.2.

Figure A1.2 - Flow of Funds



17. **Summary Sheets with Records and Statements of Expenditures (SOEs) will be required for documenting eligible expenditures and reimbursements to be paid by the DA**. Direct Payments will be documented by records/invoices. Applications documenting the advances to the DA will be made monthly. Documentation supporting expenditures claimed against SOEs will be retained by the implementing agency and will be available for review when requested by IDA supervision missions and the contracted project external auditors.

18. **The Project will have a Disbursement Deadline Date of four months after the Closing Date of the Project.** This will be the final date on which IDA will accept applications for withdrawal from the Recipient or documentation on the use of Grant proceeds already advanced by IDA (i.e., the four-month period is the Grace Period). This Grace Period is granted to allow for orderly Project completion and closure of the Grant account via the submission of withdrawal applications and supporting documentation for expenditures incurred on or before the Closing Date. All expenditures incurred during the Grace Period (between the Closing Date and the Disbursement Deadline Date) will not be eligible for disbursements, except as otherwise agreed with IDA. All documentation for expenditures submitted for disbursements will be retained at the PIU during the lifetime of the Project and be made available to the external auditors for annual audits, and to IDA and its representatives if requested. After Project Closing, the relevant documentation will be retained for two years, following the Government's regulations on record keeping and archiving. In the event that auditors or IDA's implementation support missions find that disbursements made were not justified by the supporting documentation, or are considered ineligible, IDA may, at its discretion, require the Recipient to: (i) refund an equivalent amount to IDA, or (ii) exceptionally, provide substitute documentation evidencing other eligible expenditures.

19. **Before IDA closes the Grant account (two months after the Disbursement Deadline Date), the Recipient must provide supporting documentation satisfactory to IDA on the expenditures paid out of the Designated Account**. All balances in the DA and amounts for expenses that cannot be documented must be refunded to IDA. If the Recipient fails to provide the documentation or refund required by IDA by this date (two months after the Disbursement Deadline Date), IDA will not permit the use of DAs under new Grants, Credits or Loans made to or guaranteed by the Recipient.

20. **Conclusions of the FM Assessment:** The overall residual FM risk after mitigation measures is considered **Substantial**. However, the FM arrangements for the Project are considered adequate and meet IDA's minimum fiduciary requirements.

21. **Grant Disbursement Categories**. The grant will be disbursed as per the categories in the following table.

Table A1.3 - Grant Allocation and Disbursement Categories

Category	Amount of the Grant Allocated (Expressed in SDR)	Percentage of Expenditures to be Financed (Inclusive of Taxes)
(1) Goods, works, non-consulting services, consulting services, Training, and Operating Costs under Parts 1, 2 and 3 of the Project.	64,700,000	100%
(2) Goods, works, non-consulting services, consulting services, Training, and Operating Costs under Part 4 of the Project.	8,600,000	100%
(3) Emergency Expenditures under Part 5 of the Project (CERC Part)	0	100%
TOTAL AMOUNT	73,300,000	100%

Note: The adoption of the POM satisfactory to IDA is a condition of disbursement of proceeds under Category 1 of the Grant.

C. Procurement

22. **Regulations**. Procurement for goods, works, non-consulting, and consulting services will be carried out in accordance with the procedures specified in the World Bank Procurement Regulations dated November 2020 (Procurement Regulations), and provisions stipulated in the Financing Agreement.

23. **Fraud, coercion, and corruption**. The Project's procurement activities will be carried out in accordance with the Anti-Corruption Guidelines (revised as of July 1, 2016).

24. **Procurement information and documentation filing and database.** Procurement information will be recorded and reported as follows:

(i) Complete procurement documentation for each contract, including bidding documents, advertisements, bids received, bid evaluations, letters of acceptance, contract agreements, securities, and related correspondence will be maintained at the level of respective ministries in an orderly manner, readily available for audit.
(ii) Contract award information will be promptly recorded and contract rosters, as agreed, will be maintained.

(iii) Comprehensive quarterly reports indicating: (a) revised cost estimates, where applicable, for each contract; (b) status of ongoing procurement, including a comparison of originally planned and actual dates of the procurement actions, preparation of bidding documents, advertising, bidding, evaluation, contract award, and completion time for each contract; and (c) updated Procurement Plans, including revised dates, where applicable, for all procurement actions.

25. **Advertising Procedure**

- **General Procurement Notice, Specific Procurement Notices**, Requests for Expression of Interest, and results of the evaluation and contracts award should be published in accordance with advertising provisions in the Procurement Regulations.
- **For request for bids and request for proposals** that involve international bidders/consultants, the contract awards shall be published in the United Nations Development Business in line with the Provisions of the Procurement Regulations. For works and goods, the information to publish shall specify: (a) the name of each bidder who submitted a bid; (b) bid prices as read out at bid opening; (c) the name and evaluated prices of each bid that was evaluated; (d) the names of bidders whose bids were rejected and the reasons for their rejection; and (e) the name of the winning bidder, and the price it offered, as well as the duration and summary scope of the contract awarded. For consultants, the following information must be published: (a) names of all consultants who submitted proposals; (b) technical points assigned to each consultant; (c) evaluated prices of each consultant; (d) final point ranking of the consultants; and (e) the name of the winning consultant and the price, duration, and summary scope of the contract. The same information will be sent to all consultants who submitted proposals.
- **For other contracts,** the information should be published in national/regional gazette periodically (at least, quarterly) and in the format of a summarized table covering the previous period with the following information: (a) the name of the bidder/consultant to whom the contract was awarded; (b) the price; (c) duration; and (d) scope of the contract.
- **Procurement for Activities in Components 1, 2, 3 and 4:** Procurement (works, goods, and services) for Components 1, 2 and 3 will be conducted on the basis of community participation in accordance with clause 6.38 and 6.57 of the World Bank Procurement Regulations (Particular types of Approved selection Arrangements and particular Types of Contractual Arrangements), and other procurement/selection methods detailed in the POM.
- **Training, workshops, and conferences**. The training (including training material and support), workshops, and conference attendance, will be carried out based on an approved annual training and workshop/conference plan. A detailed plan providing the nature of training/workshop, number of trainees/participants, duration, staff months, timing, and estimated cost will be submitted to IDA for review and approval before initiating the process. The appropriate methods of selection will be derived from the detailed schedule. After the training, the beneficiaries will be requested to submit a brief report indicating what skills have been acquired and how these skills will contribute to enhance his/her performance and contribute to the attainment of the PDO.
- **Operating costs.** Operating costs financed by the Project are incremental expenses, including office supplies, vehicles operation and maintenance, maintenance of equipment, communication costs, supervision costs (that is, transport, accommodation, and per diem), and salaries of locally contracted staff. They will be procured using the procurement procedures specified in the Project's manual of administrative, financial, and accounting procedures.

26. **Assessment of the PIU Capacities to Implement Procurement**

- **The procurement activities for the Project will be executed by the PIU reporting to MARNDR**. It will carry out the following activities: (a) managing the overall procurement activities and ensuring compliance with the procurement process described in the relevant manuals; (b) ensuring compliance of bidding documents, draft Requests For Proposals, evaluation reports, and contracts with World Bank procedures; (c) preparing and updating of the Procurement Plan; (d) monitoring the implementation of procurement activities; (e) developing procurement reports; and (f) seeking and obtaining approval of internal designated entities and then on IDA on procurement documents as required.
- **The key risks identified for procurement under the Project are as follows**: (a) technical staff not familiarized with complex works, which may lead to poor technical documents, (b) staff involved in the Project may not have sufficient knowledge of the Bank's New Procurement Framework (NPF) and/or there is a risk of confusion with previous sets of guidelines; (c) there is lack of proficient procurement staff to implement actions on time and in line with the NPF, and new procurement staff will need to be recruited for the new PIU-L in the Centre Department; (d) inadequate communication and interaction between the beneficiaries and the PIU may lead to delays in procurement processes and poor cost estimations; (e) administrative routines may increase delays in the procurement processes and affect project implementation; and (f) the procurement in a specialized market with few bidders can restrict competition and possibly increase prices and collusion risks; (g) the corruption risks in procurement of big contracts; and (h) poor filing which may lead to loss of documents. Overall, all these risks can cause mis-procurement, possible delays in evaluation of bids and technical proposals leading to implementation delays, poor quality of contract deliverables and reputational risks to the Bank and the Project.

27. **Contract management capability**. The major consultancy contracts are awarded by the PIU. The PIU being the nodal agency is overall responsible for the compliance to the agreed procurement procedures and processes and shall monitor the contractual performance including contract management issues, if any.

28. **The overall procurement risk for the Project is rated Substantial** after adopting the agreed mitigation action plan summarized in Table A1.4 below.

Table A1.4 - Action Plan Mitigation Measures

Risk	Action	Responsibility	Date
1. Staff involved in the Project who may be overloaded or not have sufficient knowledge on the NPF and/or risk of confusion with the former guidelines	Hire a dedicated Procurement Specialist based on ToR acceptable to IDA Hire procurement staff for the new PIU-L in the Centre Department on ToR acceptable to IDA Organize workshop sessions to train all staff involved in the procurement under the Project on the NPF Continuous hands-on trainings of identified key staff on the NPF	PIU IDA Procurement Specialist (PS) IDA PS	As soon as possible As soon as the dedicated procurements specialists are hired During the life of the Project
2. Lack of institutional capacity	Strengthening the institutional framework through training and additional expertise	PIU	During the life of the Project
3. Inadequate communication and interaction between the beneficiaries and the PIU, which may lead to delays in procurement processes	Elaborate the manual of administrative, financial, accounting procedures to consider the NPF and clarify the role of each team member involved in the procurement process of the project and the maximum delay for each procurement stage, specifically with regard to	PIU	2 months after Effectiveness

Risk	Action	Responsibility	Date
and poor estimation of the costs	the review approval system, and signature of contracts		
4. Corruption risks in procurement of large contracts	The Recipient will regularly update its market survey and cost estimates Establishment of a grievance and complaints reception / management system	PIU	During the life of the Project
5. Natural hazards continue to disrupt agricultural activities and destroy resilient infrastructure	Monitor the implementation according to the plans	IDA and the PIU	During the life of the Project
6. Protect against the risks of exchange losses linked to the depreciation of the gourde, the country's inflation	Define clear and simple payment mechanisms in contractual clauses. For example, contracts' payment in foreign currency for service providers within the framework of project execution.	PIU	Contract drafting stage
7. Interferences in the procurement process	World Bank procedures and regulation to apply. Explain the process to the authorities and counterparts.	PIU	During the life of the Project
8. Poor filing, which can lead to loss of documents	Set an appropriate filing system at the level of PIU to ensure compliance with the World Bank procurement filing manual	PIU/Procurement Specialist	During the life of the project
9. Procurement in a specialized market with few bidders can restrict competition and possibly increase prices and collusion risks	All procurement of large contracts will be thoroughly reviewed by IDA	PIU	During the life of the project
10. Administrative routines may increase delays in the procurement processes and affect project implementation	Exercise quality control on all aspects of the procurement process, including developing ToRs, technical specifications, bidding documents, proposals, request for quotations, evaluation, and award	PIU	During the life of the project

29. **Frequency of procurement reviews and supervision:** IDA's prior and post reviews will be carried out based on thresholds indicated in Table A1.4. IDA will conduct six-monthly supervision missions and annual post-procurement reviews. The standard post-procurement reviews by IDA staff should cover at least 20 percent of contracts subject to post-review. Entering timely and accurate data and information on procurement is essential for post-review work under STEP. Post reviews consist of reviewing technical, financial, and procurement reports on project procurement actions by IDA staff or consultants selected and hired by IDA. Project supervision missions shall include an IDA procurement specialist or a specialized consultant. IDA may also conduct an independent procurement review at any time until two years after the Closing Date of the Project.

ANNEX 2: Detailed Project Design

COUNTRY: Haiti
Emergency Resilient Agriculture for Food Security Project

Theory of Change

1. **The design of the Project is guided by the following Theory of Change.** Three key issues have been identified to be addressed by this emergency operation:

- First, climate-induced natural disasters, trends in climate change and other shocks (including price increases, economic/political volatility, and health) have severely affected rural livelihoods and incomes, and therefore also the ability to produce or purchase adequate amounts and quality of foods, resulting in crisis levels of food insecurity (i.e. a lack of effective demand).
- Second, food production and post-harvest management in crisis food insecurity (IPC3) areas are beset with problems, including a lack of access to inputs and knowledge, as well as by extreme weather events, climate change trends affecting productivity and other shocks, reducing the availability of nutritious foods (i.e. challenges with supplies of food).
- Third, the 7.2 magnitude earthquake on August 14, 2021, caused major damage to food production, especially in the southern Departments of Les Nippes, Grand'Anse and Sud, leading to a need to repair productive infrastructure, recapitalize farmers and increase resilience against future natural shocks (i.e. challenges with earthquake recovery).

2. **The activities under the Project components are designed to achieve the stated PDO outcomes, thus contributing to the higher-level impacts of reduced vulnerability to food insecurity, recovery of agriculture in earthquake-affected areas, improved land and water management, greater resilience to future earthquakes and climate-induced natural disasters, strengthening of human capital, increased social inclusion, and enhanced social peace.** The Project will include three interrelated and complementary components, (described in greater detail below), to: (1) ensure accessibility to food for households facing crisis levels of food insecurity by creating temporary employment opportunities through participatory community works programs that strengthen rural productive infrastructure, increase long-term production and enhance resilience to extreme events; (2) increase the supply and the availability of food by supporting climate-smart production of nutritious food products, via support for input packages and application of Climate Smart Agriculture (CSA) technologies and practices with important climate co-benefits; post-harvest investments to increase value-added and reduce food losses and waste, and climate resilient back-yard production; and (3) promote recovery of resilient agricultural production by targeted households in the most earthquake-affected areas via: (i) restoration of irrigation and drainage infrastructure; (ii) rehabilitation of rural roads; (iii) soil conservation and land stabilization in strategic areas; (iv) rehabilitation of structures for water collection and storage; (v) input packages for farmers decapitalized by the earthquake, and (vi) employment programs in supporting areas such as childcare and meal preparation.

3. **The Departments that the Project will target are characterized by diverse agroecological zones, requiring interventions to increase food security that are tailored to their specific needs**. The southern Departments (Grand'Anse, Sud and Les Nippes) include irrigated plains where two crops per year of rice are produced; rainfed areas characterized by production of maize, sorghum, vegetables and beans; higher elevation water catchment areas that are more suitable for agro-forestry (including cocoa and coffee); and humid plains suited for market gardening (including a range of vegetables). The Centre Department is characterized by hot, dry plateaus where beans and cassava are produced and livestock is raised. The Project will build on knowledge and

experience from previous IDA-financed agricultural operations to provide tailored support for climate smart and resilient production that is most suited to local agroecological conditions and local farmers' experience.

Project Components

4. **The Project will address the crisis food insecurity in targeted Departments in Haiti by, on the one hand, supporting the ability of food insecure households to access food, and on the other hand increasing climate-smart production and availability of nutritious food products.** This two-part approach will address effective demand for and supply of food in farming communities living in crisis food insecurity conditions (IPC3) in the Departments of Grand'Anse, Les Nippes, Sud and Centre. PARSA will also include a particular focus on supporting households in the three southern Departments to recover from the August 2021 earthquake. The Project will have the following components:

5. **Component 1: Support project beneficiaries' access to nutritious food (US$22 million)**. The component will ensure rapid food accessibility, as measured by improvements in the Food Insecurity Experience Scale (FIES) ratings, for targeted beneficiaries in the Departments of Grand'Anse, Les Nippes, Sud and Centre, with a focus on areas beyond those worst affected by the August 2021 earthquake. Beneficiaries in these communities will be selected using a participatory community approach, complemented by data from the Information System of the Ministry of Social Affairs and Labor (SIMAST, used to target social assistance). The component will support the creation of temporary employment opportunities for members of farming households facing crisis food insecurity, in two key areas:

- **Providing employment in labor-intensive participatory community works designed to generate long-term benefits in terms of increased production and resilience to weather events and climate change trends**, by strengthening rural productive infrastructure (estimated at around US$20 million). This will include rehabilitation of: (i) irrigation and drainage infrastructure, improving capacity for a more efficient water management across the entire year (e.g., replacing damaged gates, rehabilitating canals, regulating water flows and improving hours of service, reducing leaks and increasing availability of water); (ii) rehabilitation/maintenance of small rural roads/tracks and accesses to isolated village, and ensuring all-weather usage of feeder roads; (iii) terraces, soil conservation and land stabilization in strategic areas (e.g., terracing, vegetative coverage of lands, and landscapes approaches to land management) to address the risk of increasing soil degradation and to strengthening resilience to volatile hydrometeorological conditions, earthquakes and other natural disasters; (iv) rehabilitation of structures for water collection/harvesting and storage to addressing water scarcity issues for both human consumption and for productive uses; (v) recuperation of degraded areas, restoration/reforestation of riverbanks; (vi) rehabilitation of other agricultural infrastructures (crop storage, livestock shelters etc.) to increase value added and reduce post-harvest food losses and waste. In all cases, these improvements in rural infrastructure will be carried out following strict harmonized climate and disaster-resilient design standards and implementation practices, as well as to reduce GHG emission to the extent possible. These works will be designed to improve sustainable production and productivity via enhanced access to water resources, to rural roads/tracks, improved land and watershed management, increased protection to weather shocks and improved resiliency to unpredictable weather conditions making them more resilient to increasing challenges related to climate change (mainly through adoption of CSA standards and practices). As these works are expected to be straightforward, a community-based approach will be promoted, using a labor-intensive workforce under a Community Participatory Works Program. This approach has been used successfully various times by MARNDR, including through RESEPAG II in response to Hurricane Matthew to restore damaged rural infrastructure, through collaboration with a range of local partners and operators that have successfully implemented such activities,

in line with agreements and protocols established in the RESEPAG II Project. In addition to having a direct impact on rural households' incomes and therefore their ability to afford food, these activities will complement activities under Component 2 in supporting increased local food production and enhancing resilience to climate-related natural disasters.

- **Temporary employment programs in key supporting areas,** such as childcare, meal preparation, and in providing services that are needed for agricultural production and land management (approximately US$2 million). This support is seen as creating opportunities for people with disabilities who may not be able to engage in the labor-intensive infrastructure works, and also as creating opportunities for women to both obtain rewards from childcare and meal preparation as well as free them to participate more fully in the labor-intensive public works (see Annex 8).

6. **The Project will finance the wages[47] paid as well as materials, equipment, structures, and technical support (including engineering designs, when needed) required for the effective implementation of the temporary employment programs**. This will contribute to ensuring the adoption of standards for enhanced climate and disaster-linked resiliency, as well as practices that would reduce GHG emissions. Eligible works will not require any resettlement. The combination of participatory community works and temporary employment programs in key supporting areas will provide a broad range of employment opportunities for unemployed or underemployed adults and youths of all genders, as well as for persons with disabilities and those facing intersectional challenges to obtain income-generating employment and thereby improve their ability to access food. Women's access to temporary employment in both employment program areas described above will be facilitated by providing childcare and ensuring the availability of meals during working hours.

7. **Component 2: Increase climate- and nutrition-smart agricultural production (US$38 million).** This component will support the expansion of local food production to increase the availability of nutritious foods as well as incomes for local agri-food producers in targeted communities in the Departments of Grand'Anse, Les Nippes, Sud and Centre, including in areas of production and handling in which women play a predominant role. Beneficiaries in these communities will be selected using a participatory community approach, with cross-checking of their status as farming households in MARNDR's Farmer Registry. Support under Component 2 will result in farmers adopting improved climate-smart technologies and approaches, and an increased volume of nutritious agri-food products produced by targeted beneficiaries, including women farmers, and will generate important climate co-benefits. Component 2 will have three main areas of support:

- **Provision of packages of key selected inputs for agricultural producers to strengthen and/or restart production and addressing climate change risks**[48] (estimated at around US$28 million). Farmers have been severely decapitalized as a result of natural disasters in recent years. Affected farmers will receive in-kind subsidies in the form of input packages for food production that integrate climate-smart and nutrition-smart aspects (e.g., bio-fortified drought and flood tolerant seeds, as well as short cycle crops or varieties more adapted and resilient to climate change risks); recapitalization of agricultural livestock (including goats, poultry, cattle, inputs for fish farming, and beekeeping kits, using the same mechanism that was used successfully under RESEPAG following Cyclone Matthieu), together with related equipment (e.g., fodder

[47] The daily wages of approximately US$4 per day will be aligned with the recommendations of MARNDR and with financial support provided via social safety nets under the IDA-financed ASPIRE Project.

[48] Such as: Seeds of new crop varieties with enhanced resiliency to climate change (e.g., shorter cycles, or drought and flood tolerant varieties), bio-fortified foods seeds, slow-release and biological fertilizers, low-toxicity and low-risk pesticides or biopesticides, biofuels and bio-digestors, bio-degradable goods for storing products and for beekeeping, small solar panels for controlled fertilization or water management, etc.

choppers and small dairy equipment), and technical assistance. The support will explore complementarities with the rural infrastructure improvements under Component 1, intended to significantly increase the availability of basic foodstuffs and low-cost animal protein in the region, recapitalize farmers and strengthen resilience to future shocks. Female-headed households will be targeted to improve their access to agricultural inputs as well as technical training in their use.

- **Support for more efficient post-harvest management**, including storage and handling facilities, processing equipment, as well as technical support and capacity building related to food safety, hygienic handling and food processing and packaging. This will contribute to increased efficiency in harvesting, transport, grading and packing; better protection of food quality and safety; more hygienic handling; improved food processing and packaging methods; value addition by farming households (e.g., in the production of dried and crushed cereals, meat, vegetables, or cassava, etc.) and to reduced food losses and waste, thereby generating climate co-benefits via mitigation. Support will also be provided for market access and know-how, to ensure that the producers can sell their excess produce and establish improved linkages with purchasers and suppliers in local markets. Given women's preponderant role in post-production handling, this component will address impediments to their engagement in post-harvest activities.
- **Support for environmentally sound and climate resilient back-yard production by targeted farming households**. This will be provided in the form of small structures, equipment, and input/breeding packages to help beneficiaries help establish backyard production for nutritious items like vegetable, eggs, and meat by adopting climate smart technologies and practices. They will also receive training in good CSA production practices, as well as on how to address micronutrient deficiencies and maximize the nutritional value of crops in the preparation of family meals. Given that women are the main producers in family plots, these activities will target women beneficiaries and female-headed households.[49] These activities are also likely to be more accessible for persons facing intersectional challenges (e.g., gender, age and/or disabilities), and packages would be designed with these considerations in mind.

8. **The input packages, processing support and back-yard production in-kind grants provided to the targeted beneficiaries under this component, as well as the restoration support in earthquake-affected areas under Component 3, will be optimized according to agroecological zones**. Thus, in irrigated zones, seeds could be provided for rice, tomatoes, calalou (gombo), spinach, eggplants, and banana suckers. In higher altitude rainfed soils, inputs will be provided in the form of compost to reconstitute the organic content of soil, as well as improved and climate change resilient seed varieties (e.g., for yams, beans, maize, pineapples, and seedlings, for coffee and cocoa), that could be planted as hedgerows for farming plots. Hardy and fast-growing shrub species, such as castor and vetiver, will be considered for stabilizing and recovering dry, degraded soils, while productive trees (citrus, mangoes, avocadoes, breadfruit, cocoa, coffee) could be among the trees planted to protect areas around springs. In higher altitude dry plains, such as in the Centre Department, production of livestock will be supported, as well as a range of local crops that are better suited to these environments. For back-yard production, depending on the area, inputs could comprise compost to enrich the soils, as well as inputs for crops such as carrots, sweet peppers, yams, and small livestock. Producers will also receive the necessary farming equipment (e.g., hoes, rakes, wheelbarrows, spades, machetes, etc.), and in certain cases support with plowing and preparing soils, to strengthen production.

[49] The back-yard production subsidy mechanism was initiated around ten years ago in IDA- and IDB-financed operations and has been updated continuously with newly tested and improved technical packages, in close consultation with other donor partners as well (e.g., the French Development Agency and USAID). The mechanism is supported by a specific operational manual. The significant experience gained by MARNDR and operators will facilitate rapid implementation of this support.

9. **The mechanism for providing subsidized technical packages has been tested under the IDA-financed RESEPAG I and II and RPL Projects as well as agricultural projects financed by donor partners and has served to inform the design of this activity.** A manual developed jointly by all actors and regularly updated serves as a reference guide to the implementation of these technical packages. The manual describes various technical packages adapted to different agro-ecological zones to improve climate-smart and nutrition-smart agricultural practices. The manual also presents different mechanism to deliver the associated technical assistance, which needs to ensure taking into account the adoption of CSA practices. The farmer subsidy scheme is linked to a National Farmer Registry created during RESEPAG I that will serve the PARSA Project. With the support of RESEPAG II, farmers have been identified in the Grand'Anse, Les Nippes and Sud Departments, and their plots have been geo-located, and a list of suppliers of inputs and services has been completed. The identification of farmers in the Center Department will be completed by MARNDR, with support from an operator as needed.

10. **Component 3: Promote access to nutritious food and increase climate- and nutrition-smart agricultural production in earthquake-affected areas (US$30 million).** This component will finance the rehabilitation of public or community infrastructure damaged by the recent earthquake and storms, condidered essential for the socio-economic recovery and restoration of livelihoods in the area, as well as specific assistance to farmers during several production cycles (at least 2-3 campaigns) to enhance their productivity and resiliency. The component will cover temporary employment programs, building materials, equipment, structures, inputs and technical services (building designs, if needed) in the areas of Sud, Grand'Anse and Les Nippes Departments to recover following damages suffered (specifically as a result of the August 14, 2021 earthquake). In all cases, these programs for rehabilitating rural infrastructures will be carried out following strict harmonized climate and disaster-resilient design standards and building practices, as well as to reduce GHG emission (to the extent possible), assuring an enhanced resiliency to weather shocks and climate change risks. Component 3 will target support to critical areas in these Departments identified in the Post-Disaster Needs Assessment, and the beneficiaries in these communities will be determined using a participatory community approach. The outcome of this component will be measured by the number of targeted beneficiaries in the earthquake-affected areas with improved Food Insecurity Experience Scale ratings (FIES), and by the area recovered for climate-smart agricultural production following damage by the August 2021 earthquake, including the area farmed by female beneficiaries. Component 3 will finance a blend of activities designed to promote both short-term and medium-longer term recovery:

- **Rehabilitation of damaged irrigation infrastructure to restore efficient operation** (estimated to be around US$10 million). This will include the re-design and repairs of ruptures in primary and secondary irrigation channels with cement linings; masonry repairs; reparation or replacement of damaged or destroyed valves, canal gates and supporting stone walls, and removal of tons of silt in irrigation channels, to permit the recovery of production in earthquake-affected irrigated perimeters as well as to ensure an efficient water management in the future. Where repairs involve lower levels of technicality, this will be done through labor-intensive public works programs organized through Irrigation Associations via a participatory community approach (as has already been done successfully in earlier IDA-financed projects in Haiti), under protocols signed by MARNDR and the respective Irrigation Associations. The protocols describe the activities in detail, the unit costs and total costs, the number of workers to be engaged, and the required equipment and materials, and provide for a technical and financial report including the list of workers and their signatures for financing to be released. Close supervision is provided by the local PIU and by contracted technical experts as needed for these activities, which are carried out over short periods (2-4 months). This mechanism was successfully tested under RESEPAG II after Hurricane Mathieu. For more technical challenges and larger-scale irrigation repairs requiring special expertise, which would require re-design or introduction of complementary changes in the

system, strong operators (e.g., consulting firms or NGOs with proven expertise) or engineering firms will be contracted with the necessary equipment and expertise, and engineering consulting firms will be contracted for the supervision of the works. These investments would include installation of new (energy efficient) equipment for an efficient water management capacity, taking into account using renewable energy sources (e.g., installation of solar panels or other sources of energy generation). In cases where new engineering designs are needed, these will apply climate-resilient designs together with specified building practices to be followed, with a view to ensuring enhanced resilience and reduced GHG emissions. These works will still involve a locally recruited workforce that will benefit from incomes and training supported by the Project. A hydro-agricultural master plan for the Plaine des Cayes has already been developed with earlier IDA support,[50] and the Project can avail of this resource for planning and reviewing the interventions. No resettlement is envisaged for any of the work to be conducted.

- **Rehabilitation of rural roads to improve access to irrigated perimeters and agricultural areas** (estimated to amount to US$4 million). The August 2021 earthquake and subsequent Tropical Storm Grace resulted in a large number of landslides and in damage/destruction of rural roads, leaving hundreds of thousands of people in rural areas of the three southern Departments without ready access to markets, exacerbating already high levels of food insecurity (see Annex 5). The Project will use similar mechanisms to those described for the irrigation repairs above (adjusted, just as above, to the level of complexity) to rehabilitate rural feeder and access roads under the purview of MARNDR, and thereby improve access to food and to markets for earthquake-affected rural communities. The investments will include climate-resilient considerations in the design and construction practices (such as alignment and design adjustment, construction materials, complementary works in drainage and contour management improvements, etc.) that reduce risks of damage from future weather shocks.
- **Investment in soil and water conservation measures to strengthen resilience to earthquakes and other natural disasters** (estimated at around US$4 million). These include interventions in strategic areas to strengthen resilience to earthquakes and other natural disasters, including recuperation or rehabilitation of sub-watersheds dominating irrigated areas and water sources; slopes that are at high risk of erosion on or near agricultural lands; high-ground woodlands that have come under greater pressure for carbon production as a result of the decapitalization of rural producers; restoration of riverbanks that have led to severe crop losses during floods and reforestation of critical areas and regeneration of vegetative cover by replanting/enrichment with native species of economic potential. Interventions in this area will include clearance of landslides that have taken out agricultural lands, together with soil conservation/management activities to stabilize lands, such as the erection of stone and natural barriers via planting of ricin, expanding vegetation coverage with species that would increase climate resilience but that also have economic potential (such as ricin, elephant grass or vetiver to generate revenues from oil production) and trees; installation of gabion baskets along selected riverbanks and weirs in selected gullies to control water flows; and protection of water sources, including via the planting of trees and natural barriers to contribute to reduced GHG emissions and a negative carbon balance. These activities will be undertaken primarily via temporary employment programs, although more technical resilience-strengthening interventions or works requiring the use of heavy machinery (e.g., excavators), will be executed by qualified private firms.

[50] See the study on: "Climate Resilience and Agricultural Productivity Enhancement in Plaine des Cayes" (P167219). Its objective was to improve the understanding of the hydro-agricultural systems of the plain of Les Cayes and to provide the main elements required to develop a general master plan for hydro-agricultural development of the plain and watersheds taking into account the agro-environmental context related to climate change and the general anthropic context.

- **Rehabilitation of small-scale, hydraulic infrastructure and equipment, including water harvesting structures and cisterns destroyed by the earthquake** (approximately US$2 million). The earthquake damaged and destroyed structures used by producer organizations, including for water consumption, irrigation, or storage and processing activities. The Project will finance the repair and upgrading of these structures so that they can be used again for productive purposes, including for adopting climate resilient technologies and practices. These investments will promote the adoption of more efficient use of water (or reuse) and usage of rainwater; efficient irrigation systems (such as micro-irrigation); the use of renewable sources of energy both in agricultural production systems and processing, via the installation of solar panels or other sources of renewable energy generation. Where cisterns for water collection for human consumption and for irrigating backyard production by households have been damaged or destroyed by the earthquake, these will be repaired or replaced, and linked to rainwater collection via the roofs of houses. As an example, tanks could be provided with a capacity of 18 cubic meters (3m x 3m x 2m), built according to seismic standards with 20cm thick masonry walls constructed with blocks and reinforced concrete.
- **Provision of input packages to farmers decapitalized by the August 14, 2021, earthquake** (estimated at around US$8 million). Earthquake-affected farmers will receive in-kind subsidies in the form of input packages that integrate climate-smart and nutrition-smart aspects (e.g., bio-fortified drought and flood tolerant seeds, as well as short cycle crops ahead of the planting seasons); recapitalization of agricultural livestock following earthquake-related losses (including goats, poultry, cattle, inputs for fish farming, and beekeeping kits), and related equipment and technical assistance. Female-headed, earthquake-affected households will be targeted to improve their access to agricultural inputs and technical training in their use.
- **Temporary employment programs in key supporting areas such as childcare, meal preparation, and making tools/products for agricultural purposes** (estimated at around US$2 million). Just as in Component 1, temporary employment will be financed in key supporting activities (e.g., childcare, meal preparation, tool-making), although this support under Component 3 will be for communities in earthquake-affected areas.

11. **Addressing earthquake-related losses and providing support to affected producers to restore productive capacity requires an appropriate investment in terms of recovery time and support.** An immediate response has been provided in response to the August 14, 2021 earthquake via the limited funds available under the two agricultural projects that are currently being implemented (Second Strengthening Agriculture Public Services Project (RESEPAG II-P163081), and Haiti Resilient Productive Landscapes (RPL-P162908)). However, significant additional financial resources are required to ensure recovery from the damages caused by the earthquake. To ensure the successful recovery of farmers from the recent earthquake and storms, it will be necessary to engage in some more complex irrigation repairs and to support farmers during more than one production cycle (2-3 campaigns), so that the implementation of Component 3 for earthquake-affected areas is expected to take longer (up to 5 years) than that of Components 1 and 2 (up to 3 years).

12. **Component 4: Project management, monitoring and evaluation, and studies (US$12 million)**. This component will finance the activities of the PIU, which will include technical direction of the Project in line with the Project Operational Manual (POM). The component will also finance external audits of the Project, and will finance selected gender-sensitive studies, including to assist GoH, in partnership with other donor partners, to develop a comprehensive food security plan to ensure improved access to and availability of climate-resilient and nutrition-smart agri-food products. In particular, the project will support the CNSA in its role as national and regional coordinator of food security response between humanitarian aid, social security programs (such as the ASPIRE project), and agricultural response programs as described in the National Policy and Strategies for Sovereignty and Food Security and for Nutrition in Haiti (PSNSSANH). It will also support strengthening of the

services of the Ministry involved in the monitoring and strategic coordination of the projects activities, and in particular the Agricultural Statistics Unit (USAI) and the Studies and Programming Unit (UEP), thereby continuing the strengthening efforts under the RESEPAG and RPL projects. Departmental Agricultural Directorates (DADs) affected by the earthquake, as described in the PDNA, will also be supported. TA will also be considered to advise MARNDR on how best to assist pig farmers to avert and address the emerging challenge of African Swine Fever, including for verifying losses of pigs, and some support via the technical input packages. Component 4 will finance small civil works to rehabilitate or improve offices and training facilities of MARNDR and the PIU, incremental and operating costs, including for strengthened fiduciary, environment, and social, and M&E staffing, as well as rentals of office and training space equipment, and goods for the purposes of managing the Project. The component will finance, and track the resources provided, specifically to implement activities under Component 3 (for recovery from earthquake-related damages). The M&E will develop gender-disaggregated baseline data and track intermediate and outcome indicators on a gender-disaggregated basis over the life of the Project.

13. **Component 5: Contingent Emergency Response Component (CERC) (US$0 million).** This contingent financing mechanism will permit Haiti rapid access to World Bank support in the event of an eligible crisis or emergency. The mechanism for triggering the CERC is established in the CERC Operations Manual under finalization, detailing the applicable fiduciary, environmental and social, monitoring, reporting, and other implementation arrangements required for implementing the activities to be financed. In case of an event triggering the CERC, funds will be reallocated to this component to finance emergency purchases and activities, including goods, works and technical assistance to respond to the emergency. The implementation agency for the CERC will be the PIU of the PARSA, which is the current PIU for RESEPAG-II. The CERC Manual, which is fully part of the Project Operations Manual for the PARSA will be submitted by March 30, 2022.

14. **In order to ensure rapid, well-targeted, equitable and safe outcomes for the affected people, the response will be implemented using existing, proven implementation mechanisms, and applying strict health measures to prevent the spread of COVID-19.** The Project will build on the experience and mechanisms established in other IDA-finance operations and will draw on national institutions and operators with the requisite skills, expertise, and outreach capacity, to ensure readiness for implementation and fast delivery of outcomes to the affected population. For example, labor-intensive works supported under Component 1 will be implemented using mechanisms that are already in place through the ongoing projects. The focus under Component 2 will be on activities that are most likely to yield returns in the short term (3 to 6 months) through production of food for immediate consumption and for sale in local markets. The CERC activated under the RPL Project in April 2020 utilized a similar strategy and is supporting 21,500 agricultural households (i.e., more than 100,000 beneficiaries) across two cropping seasons (Spring-Summer 2020 and Winter 2020). All Project activities will be subject to strict health measures to prevent the spread of COVID-19, following procedures detailed in the POM.

15. **The IDA, CRW and CRW-ERF funds will finance the full costs for the Project.** These include labor-intensive public works programs and temporary employment programs in key supporting areas, irrigation rehabilitation and soil conservation works, rehabilitation of rural roads, restoration of structures and cisterns, input packages, post-harvest value-addition, back-yard production, TA, project management, M&E and studies, and the CERC. No counterpart funding will be required on the part of GoH, although staff time will be provided for project oversight. Beneficiary farmers will receive cash under the participatory community works programs and in-kind subsidies in the form of inputs, equipment, and structures for climate-smart production of nutritious food. They will provide labor for sowing, weeding, watering, and harvesting. The CRW-ERF resources will finance Components 1, 2 and 4, while the post-earthquake CRW resources will finance Component 3. IDA resources will complement the CRW financing, with a focus on longer-term aspects of the Project investments.

16. Table A2.1 below shows the sequencing of the implementation of the various components.

Table A2.1 - Summarized Sequencing of Implementation of Activities

Components and Activities/Year/Quarter[51]	2022			2023				2024				2025				2026				2027	
	T1[52]	T2	T3	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2	T3	T4	T1	T2
Component 1: Support project beneficiaries' access to nutritious food																					
Labor-intensive participatory community works programs																					
Identification of areas, infrastructure to be rehabilitated and beneficiaries																					
Establishment of contracts/protocols																					
Execution of the works[53]																					
Temporary employment in supporting areas[54]																					
Component 2: Increase climate- and nutrition-smart agricultural production																					
Establishment of contracts/protocols																					
Distribution of technical packages																					
Component 3: Promote access to nutritious food and increase climate- and nutrition-smart agricultural production in earthquake-affected areas																					
Labor-intensive participatory community works programs																					
Identification of areas, infrastructure to be rehabilitated and beneficiaries																					
Establishment of contracts/protocols																					
Completion of the work																					
Temporary employment in supporting areas																					
Supply of input packages to producers																					
Selection of beneficiaries																					
Establishment of contracts/protocols																					
Distribution of technical packages																					
Component 4: Project Management																					

[51] The agricultural calendar year (for cropping seasons) begins in October and ends in September.
[52] Quarter 1 of Project implementation (Trimester 1 or T1 of 2022) begins in April 2022, while T1 for subsequent years begins in January of each year.
[53] The initial works under the Project will be carried out in the South where the RESEPAG team in the Local PIU is already available.
[54] Some activities can be performed over longer periods without taking into consideration the agricultural cropping seasons.

ANNEX 3: Implementation Support Plan

A. Strategy and Approach for Implementation Support

1. The key elements of the implementation support strategy include the following:

(a) **Timely support.** IDA's implementation support will begin immediately after Board Approval to help the client achieve Effectiveness on time. Two standard missions will be undertaken per year. The first Implementation Support Mission (ISM) will be undertaken at the latest three months after Effectiveness of the Project.

(b) **Continuously strengthening capacities.** When needed, capacity building will be provided to the Recipient's technical team. In addition, training will be provided to PIU staff and to local partners including Irrigation Associations, NGOs, producer organizations, and others, as needed by the task team on technical, operational, fiduciary and safeguard aspects of the Project. Moreover, on top of carrying out their usual implementation support functions, IDA fiduciary, safeguard, and M&E specialists will be available to provide close support and detailed hands-on guidance to their counterparts during the initial months following Effectiveness.

(c) **Technical support.** IDA's task team will include technical specialists with expertise in a range of areas, drawn from within the institution and development partners such as FAO, including the FAO/World Bank Cooperative Program (FAO/CP). Members of the Project's task team will organize and undertake field visits to verify compliance with the policies and procedures spelled out in the Grant Agreement and in the POM and other manuals; identify bottlenecks affecting implementation progress and provide advice and recommendations to overcome the identified implementation challenges.

(d) **Fiduciary aspects.** IDA's Fiduciary and Procurement Specialists will provide hands-on FM and procurement support to the PIU.

(e) **Environmental and social risk management.** IDA's task team will also include Environmental and Social Specialists to help in capacity building and technical reviews. The E&S Specialists' role will be to monitor progress of the different environmental and social management systems, ensure that stakeholders are properly briefed, including via the Project Advisory Committee (PAC), and provide expert advice as and when required.

(f) **Monitoring, evaluation, and knowledge management.** The task team will support the PIU in ensuring that the Project has an effective, decentralized M&E system. The system will be designed to facilitate systematic collection of the requisite data to track progress in meeting the PDO, generate financial information, and document compliance with safeguards policies.

(g) **Local Bank Support.** The Project's implementation will also be supported by task team members based in the Bank Office in Port-au-Prince.

B. Implementation Support Plan and Resource Requirements

2. **IDA's task team will generally conduct two annual implementation support missions and, if feasible, undertake field visits to selected target regions**. However, during the first year at least three missions will be undertaken. The Government will prepare and share project-related documents for the mission's consideration at least two weeks before each mission takes place.

3. **The Bank has Procurement, FM, and Safeguards (both Social and Environment) Specialists based in Haiti and will provide regular, timely implementation support and technical assistance to the counterpart teams**

during project implementation. These team members will also identify capacity building needs to strengthen the procurement, FM, and safeguard capacity of the client.

- **Procurement.** In addition to carrying out an annual post review of procurement that falls below the prior review thresholds, the Procurement Specialist will provide focused procurement support, including: (a) reviewing procurement documents and providing timely feedback to the counterparts; (b) providing detailed advice and guidance on the application of the Bank's Procurement Guidelines; and (c) monitoring procurement progress against the Procurement Plan.
- **Financial Management.** FM implementation support will be in line with a risk-based approach and will involve a collaborative approach with IDA's entire task team. An initial implementation support mission will be undertaken three months following Project Effectiveness. Thereafter, implementation support missions will be scheduled using the risk-based approach model, and will include the following activities: (i) monitoring of financial management arrangements during the supervision process at intervals determined by the risk rating assigned to the overall FM Assessment at entry, and subsequently during implementation (included in the implementation status and results report - ISR); (ii) integrated fiduciary review of key contracts, (iii) review of the IFRs; (iv) review of the audit reports and management letters from the external auditors and follow-up on material accountability issues by engaging with the task team leader, Client, and/or Auditors; the quality of the audit (internal and external) will also be monitored closely to ensure that it covers all relevant aspects and to ensure confidence with regard to the appropriate use of funds by recipients; (v) on the ground supervision; and (vi) assistance to build or maintain appropriate financial management capacity and efficient systems of internal control.
- **Environmental and Social Risk Management.** IDA's Social and Environmental Specialists will monitor the implementation of the Environmental and Social Management Framework, including LMP and the SEP, and provide guidance to the counterparts on the proper implementation of the ESMF and related E&S risk management instruments.
- **Gender.** IDA's Gender Specialist will monitor the implementation of gender-related provisions in the ESMF, ESCP, SEP, LMP and POM, providing guidance as needed to the PIU's Gender Specialist/Focal Person to ensure that the Project's support to women beneficiaries and their dependents and to female-headed households is targeted, delivered, and monitored effectively, and that any gender-related grievances that may arise are promptly addressed (including SEA/SH issues).

4. **Tables A3.1 and A3.2 indicate the level of inputs that will be needed from IDA to provide appropriate and adequate implementation support for the Project during implementation**.

Table A3.1 - Implementation Support Plan

Time Year	Focus	Primary Skills Needed	Number of Missions	Estimated Budget (US$)
Year 1	• Project launch • Initialization of project components • FM systems functioning effectively • Procurement practices following Bank norms	• Team Lead • FM, Procurement Specialists • Environmental Specialist • Social Specialist • Financial Sector Specialist • Irrigation Specialist • Value Chain/Business Plan	3	200,000

Time Year	Focus	Primary Skills Needed	Number of Missions	Estimated Budget (US$)
	• ESMF in place	Specialist • Agricultural Economist • Gender Specialist • M&E Specialist • Communications Specialist • On-Farm Water Management & Farm Mechanization Specialist		
Years 2-5	• Monitor implementation of project activities • FM, procurement, safeguards • Midterm review	• Team Lead • FM, Procurement Specialists • Environmental Specialist • Social Specialist • Financial Sector/Business Specialist • Irrigation Specialist • Value Chain / Business Plan Specialist • Agricultural Economist • Gender Specialist • M&E Specialist • On-Farm Water Management & Farm Mechanization Specialist • ICR writer (Year 5)	2	175,000 per year

Table A3.2 - Skills Mix Required

Skills Needed	Number of Staff Weeks	Number of Trips Per year	Comments
Task Team Leader	20	2	Washington-based
Co-Task Team Leader	10	2	Region/HQs
FM Specialist	6	Not Applicable	Haiti country office-based
Procurement Specialist	6	Not Applicable	Haiti country office-based
Environmental Specialist	6	Not Applicable	Haiti country office-based
Social Specialist	6	Not Applicable	Haiti country office-based
Irrigation Specialist	7	2	FAO/CP
M&E/Kobo Toolbox Specialist	7	2	To be determined
Private Sector Specialist	7	2	To be determined
Agriculture Specialist	7	2	Region/HQs
Gender Specialist	14	4	Region
Communication Officer	7	2	Haiti country office-based
Operation Analyst	7	2	Haiti country office-based
Program Assistant	10	2	Haiti country office-based

ANNEX 4: The World Bank's response to Earthquake in Haiti

1. **On August 14, 2021, at 8:36 am local time, a 7.2-magnitude earthquake struck southwestern Haiti.** The southern peninsula, which includes the departments of Sud, Grand'Anse, and Les Nippes, bore the brunt of the earthquake, with 2,246 people confirmed dead and 12,763 injured. Beyond the human toll, the earthquake directly or indirectly affected an estimated population of 690,000 people, representing 45 percent of the total population of the three departments of the three Departments. The devastation was followed three days later by Tropical Storm Grace, with high winds and torrential rain that resulted in further destruction and hampered search and rescue efforts and the delivery of humanitarian aid. The consecutive disasters coupled with the ongoing political, security, and Covid-19 crises are compounding an already precarious situation in the *Grand Sud*.

2. **In the immediate aftermath of the August 2021 earthquake, the Government of Haiti (GoH) officially declared a one-month State of Emergency and requested a Post-Disaster Needs Assessment (PDNA).** The GoH activated the National Emergency Operation Center under the Civil Protection Agency. In meetings with development partners, the Prime Minister emphasized the need for coordination and requested a PDNA. On August 16, 2021, the Ministry of Planning and External Affairs presented an official request for a PDNA as part of the tripartite agreement between the United Nations, World Bank and European Union and the PDNA was launched on August 31, 2021 by the Prime Minister and development partners (UN, WB, EU, IDB and USAID).

3. **The PDNA was completed on October 9, 2021.** The PDNA assessed total damages[55] at US$1.246 billion and total losses at US$373 million, and priced the identified resilient recovery and reconstruction needs with the application of the "build back better" principle at approximately US$2 billion. The most affected sectors in terms of damages were the social sectors (US$1.022 billion), which include housing (US$753 million), education (US$257 million) and health services (US$11 million). Losses[56] were highest across the productive sectors (US$188 million), including agriculture (US$46 million); commerce, industry and financial services (US$127 million), and tourism (US$15 million). Losses in the social sectors were estimated at US$138 million. The infrastructure sector recorded US$129 million in damages, of which US$118 million for transport infrastructure. The largest needs are seen for reconstruction in the housing sector, with almost 52 percent of total needs.

4. **The overall earthquake-related financing needs for recovery and resilience significantly exceed the capacity of the GoH to respond to the emergency and absorb the shock.** The GoH is not able to meet the significant emergency recovery needs beyond the allocation of an estimated US$5 million for the immediate emergency response and the deployment of the US$40 million payout received within 10 days after the earthquake from the Caribbean Catastrophe Risk Insurance Facility (CCRIF), its largest payout to date. The GoH has underscored the critical importance of IDA's assistance to effectively address the short- and medium-term earthquake response needs, which should not only support the recovery but also strengthen resilience against future disasters in the affected areas.

World Bank Support for Haiti's Earthquake Recovery

5. **The GoH has called for the World Bank's support through all available channels, including its existing portfolio and access to the IDA Crisis Response Window (CRW).** On August 23, 2021, the GoH requested the World Bank's support in light of the scale of damages, losses and resilient recovery and reconstruction needs in the country. In response, IDA mobilized US$38 million from its existing portfolio in disaster risk management,

[55] "Damages" are estimated at the replacement value of physical assets wholly or partly destroyed, built to the same standards as prevailed prior to the disaster

[56] "Losses" are estimated from the economic flows resulting from the temporary absence of the damaged assets.

education, health, social protection, transport and agriculture in the *Grand Sud,* to finance emergency repairs to shelters, roads and urgent social and health services, and cash transfers for the affected and vulnerable population. The CERCs for the Rural Accessibility and Resilience project (US$30m); the Strengthening DRM and Climate Resilience project (US$11m) and the Strengthening Primary Health Care project (US$20m) were triggered in September 2021, January 2022, and February 2022, respectively. For the medium- and longer-term earthquake recovery and reconstruction phase, the Bank has mobilized US$150 million CRW resources, of which US$60 million will be used to replenish the triggered CERCs**.** CRW resources will be deployed mainly via the existing portfolio, drawing on existing partnerships and delivery mechanisms, and via the new PARSA project to extend activities in the targeted areas. The breakdown of the CRW financing between projects is presented in Table A4.1 below.

Table A4.1 - The CRW-supported Program in Haiti

Project	PDO	From National IDA Allocation	From ERF CRW	From CRW (EQ)
Emergency Resilient Agriculture for Food Security Project (P177072)	To: support project beneficiaries' access to nutritious food and increase climate- and nutrition-smart agricultural production, including in earthquake-affected areas.	US$22 million	US$50 million[57]	US$30 million
Rural Accessibility and Resilience (P163490)	To: (i) increase all-weather road access in selected sub-regions; and (ii) improve the resilience of selected segments of the road network	US$108 million		US$30 million (CERC replenishment)
Strengthening DRM and Climate Resilience (P165870)	To improve: (i) early warning and emergency evacuation capacity in selected municipalities in high climate risk-prone areas, and (ii) the provision of and accessibility to safe havens	US$35 million		US$11 million (CERC replenishment)
Strengthening Primary Health Care (P167512)	To: (i) increase utilization of primary health care services in selected geographical areas; and(ii) strengthen surveillance capacity especially for cholera	US$55 million (+ US$15m TF)		US$19 million (CERC replenishment)
Promoting a more Equitable, Sustainable and Safer Education-AF (P176406)	To improve the Ministry of Education's planning functions, and support access to primary education with improved learning conditions	US$50 million (+US$15.6m TF)		US$40 million
Resilient connectivity and Urban Transport Accessibility (P177210)	To: (i) improve climate-resilient urban mobility in Cap Haitien and targeted urban areas and (ii) restore connectivity and accessibility in areas affected by the August 2021 earthquake.	US$100 million		US$20 million
TOTAL		**US$370 million (+US$30.6m TF)**	**US$50 million**	**US$150 million**

6. **The CRW financing will strengthen the Bank's efforts to balance emergency response with building resilience for long-term sustainability of results.** This is in line with Pillar 3 of the World Bank Group's Country Partnership Framework (CPF) for Haiti, i.e., "enhancing resilience to natural disasters". The CRW funds for Haiti will be used, *inter alia*, to rehabilitate rural infrastructure, strengthen food security, rebuild damaged schools, and repair roads and bridges to restore connectivity in the affected areas following a "build back better" approach to strengthen the resilience to natural hazards. IDA's support will also seek to complement other development partners' ongoing interventions and forthcoming earthquake response operations.

[57] US$50 million of CRW Early Response Financing (ERF) resources were mobilized in September 2021 for the Emergency Resilient Agriculture for Food Security Project, in order to support the Government's response to Haiti's growing food security crisis that predates the Aug 14, 2021 earthquake.

ANNEX 5: Rationale for CRW Support in the Food Insecurity and Post-Earthquake Context

Haiti has one of the Highest Levels of Food Insecurity in the World

1. **Haiti's population is suffering from crisis levels of food insecurity and malnutrition.** According to recent estimates by the Integrated Food Security Phase Classification (IPC),[58] 4.3 million people (44 percent of the Haitian population) are facing Crisis Food Insecurity conditions as of September 2021 (IPC Phase 3 and higher), more than doubling from the 20 percent in IPC3+ status prevailing in October 2017, and this number is projected to increase to 4.6 million (46 percent) by June 2022.[59] The 4.3 million people include over 1.3 million people in Emergency (IPC Phase 4) and nearly 3 million people currently facing Crisis levels of (IPC Phase 3) food insecurity. Further deterioration is expected, with the share of population in the IPC3+ phases expected to continue to rise significantly due to reduced accessibility to food as incomes remain depressed and food prices soar.[60]

2. **Chronic food insecurity is pervasive with as much as 70 percent of the population estimated to face slight, moderate, or severe chronic food insecurity over the 2015-2021 period.** While acute food insecurity affects households at a single point in time, chronic food insecurity persists over time due to structural causes such as seasonal variation (e.g., a hungry season before harvests in rural areas). As a result, households may face chronic and/or acute food insecurity which can both severely impact households over the medium to long term. As of January 2020, 6 percent of Haitian children under age 5 were suffering from global acute malnutrition (up from 4.1 percent in 2012), while 13 percent were underweight, and 23 percent suffered from chronic malnutrition. Moreover, chronic malnutrition (measured by low height for age) is higher in rural than in urban areas.[61]

Table A5.1 - National Malnutrition Rates for Children under 5

	2012	***2020***	***Change over time***
Global acute malnutrition (GAM)	4.1%	6.0%	+1.9
Chronic malnutrition	23.4%	22.7%	-0.7
Underweight	10.6%	12.7%	+2.1

Sources: SMART surveys in 2012 and 2020 (UNICEF).[62]

3. **Low agricultural productivity and high food prices are among the main drivers of crisis levels of food insecurity in Haiti.** The prices of four of the most important food staples in Haiti – imported rice, black beans,

[58] The Integrated Food Security Phase Classification (IPC) is a common global scale used to classify the severity and magnitude of food insecurity and malnutrition within a given context. The methodology is based on the analysis and critical review of evidence in order to estimate the number of people affected by acute and chronic food insecurity and malnutrition. The IPC does not directly measure food insecurity but relies on existing sources of information to classify the severity of food insecurity within a specific geographic area. The three IPC scales assess (1) acute food insecurity, (2) chronic food insecurity, and (3) acute malnutrition. For more information, the IPC Technical Manual can be found at *http://www.ipcinfo.org/fileadmin/user_upload/ipcinfo/manual/IPC_Technical_Manual_3_Final.pdf*

[59] IPC 2021. Haiti: Integrated Food Security Phase Classification Snapshot September 2021 - June 2022. Available at: http://www.ipcinfo.org/fileadmin/user_upload/ipcinfo/docs/IPC_Haiti_Acute_Food_Insecurity_2021Sept2022June_Snapshot_English_rural_urban.pdf

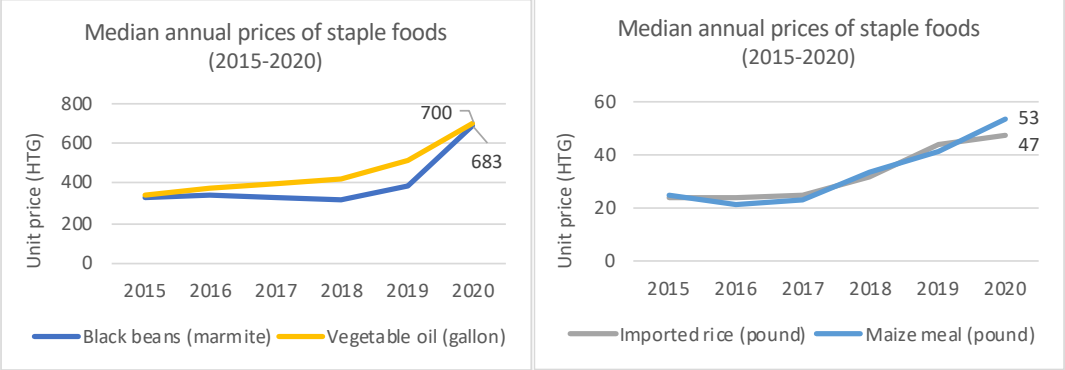
[60] From August 2018 to August 2020, the average value of the food basket, made up of six essential food products equal to a total of 1,870 Kcal/person/day, rose from 1,353 to 2,427 Haitian Gourdes per person per month, i.e. nearly 80 percent over two years.

[61] According to the EMMUS survey in 2016-17, 23.9 percent of children in rural areas faced chronic malnutrition (low height for age) compared to 18 percent in urban areas. Slight methodological differences exist between the SMART surveys used for Table A5.1 and the EMMUS surveys, so the malnutrition measures are similar but not exactly comparable. The EMMUS survey results are reported in: Institut Haïtien de l'Enfance (IHE) and ICF International. 2018. *Enquête Mortalité, Morbidité et Utilisation des Services* (EMMUS-VI 2016-2017). Petionville, Haiti, and Rockville, Maryland, USA: IHE and ICF International.

[62] See: Ministère de la Santé Publique et de la Population (MSPP) and UNICEF. 2020. *Enquête Nationale Nutritionnelle et de la Mortalité*. Port-au-Prince, Haiti: MSPP and UNICEF.

maize meal, and vegetable oil – have all increased by over 100 percent in nominal terms between 2015 and 2020, and most notably since 2018 (WFP VAM63, 2021, see Figure A5.1). The impact of increasing food prices on household budgets and consumption is substantial, as food is the largest household expenditure and makes up 70 percent of total household budgets on average. This share increases among poorer households and among those rural households that rely on market purchases to meet most of their food needs and are therefore disproportionately impacted by rising food prices.[64]

Figure A5.1 - Median Prices of Four Important Staple Foods (2015-2020)



Source: World Food Programme Vulnerability Analysis and Mapping 2021. Haiti – Food Prices.

4. **Nutrition has been impacted not only in terms of accessibility and availability of food but also, importantly, in terms of dietary diversity and quality**. An important share of households has reduced the dietary diversity of their food consumption as a coping strategy in the face of reduced incomes and rising food prices. For example, one-third of Haitian women suffer from anemia due to iron and vitamin deficiencies, which can easily be prevented through proper nutrition.[65] Data from an Emergency Food Security Assessment conducted by Haiti's National Commission for Food Security (CNSA) in 2021 indicate that over 40 percent of the population in parts of the Sud and Les Nippes Departments have low dietary diversity (see Figure A5.2 below).

5. **The high prevalence and severity of shocks in Haiti worsen household food insecurity and negatively impact household livelihoods**. More than 93 percent of the country's surface and more than 96 percent of its population are exposed to two or more hazards. As of August 2019, more than one out of every three households had been affected by a shock within just the past six months, including 42 percent of households in rural areas and 22 percent in urban areas (ENUSAN, 2019).[66] Among households affected by a shock in 2019, more than 7 in 10 had to rely on negative coping strategies, leading to detrimental impacts on longer term livelihoods, in order to meet their immediate food needs. Nearly 20 percent of households relied on urgent strategies such as sale of house, lands, or reproductive livestock; 26 percent relied on crisis strategies such as sale of productive assets or consumption of seed stocks; and 27 percent relied on stress strategies such as taking on credit to purchase food (ENUSAN, 2019), and reliance on negative coping strategies increased during the early months of the pandemic.[67]

[63] WFP's Vulnerability Analysis and Mapping Unit, May 2021. See: *https://data.humdata.org/dataset/wfp-food-prices-for-haiti*.

[64] See the FEWS NET. 2021. Haiti Food Security Outlook: Food insecurity persists alongside the socio-political crisis and high staple-food prices. Washington, DC: Famine Early Warning Systems Network (FEWS NET).

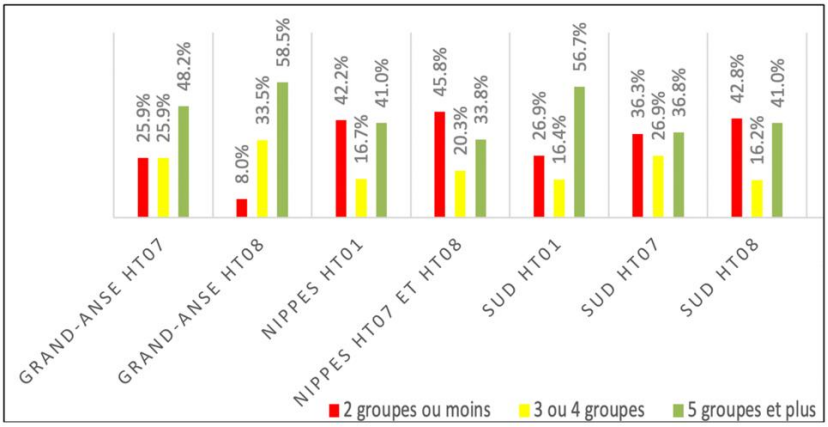
[65] Dietary diversity is a qualitative proxy for the adequacy of nutrient intake from the diet for individuals that is based on the number of food groups consumed by households over a 24-hour period. Consumption of two or less food groups indicate low dietary diversity (low access); 3 to 4 food groups indicate average dietary diversity, while 5 or more food groups indicates good dietary diversity.

[66] CNSA and WFP. 2019. *Enquête Nationale d'Urgence sur la Sécurité Alimentaire et Nutritionnelle* (ENUSAN 2019).

[67] Coordination Nationale de la Sécurité Alimentaire (CNSA) and WFP. 2020. *Évaluation Rapide de l'Impact COVID-19 sur la Sécurité Alimentaire, Moyens d'Existence et Production Agricole* (SAMEPA 2020). Cf. CNSA and IPC 2021. Haiti: IPC Acute Food Insecurity Situation.

Moreover, in August 2021, southern Haiti was struck by a massive earthquake, followed two days later by Tropical Storm Grace. The significant sociopolitical unrest and deteriorating security conditions in Haiti have also aggravated the situation in recent years, contributing to the reduced access to food for the poorest households. Given the reliance on negative coping strategies in the face of shocks, increasing household resilience is essential to ensure households can better manage and recover from the shocks and stresses that they face.

Figure A5.2 - Nutritional Quality and Dietary Diversity are Low in Southern Haiti



Source: CNSA Emergency Food Security Assessment (EFSA) 2021

A Massive Earthquake in August 2021 has Compounded Food Insecurity in Southern Haiti

6. **A massive earthquake on August 14, 2021 resulted in significant damage to agriculture in the southern Departments of Grand'Anse, Sud, and Les Nippes.** The epicenter of the 7.2 magnitude earthquake was in the Department of Les Nippes, greatly aggravating challenges with regard to accessibility and availability of food products, as well as water resources in various parts of the *Grand Sud*. Moreover, the damage was compounded by the passage of Tropical Storm Grace on August 16-17, 2021, which caused severe flooding and further destruction to already weakened structures (see Figure A5.3). Early findings from a Post-Disaster Needs Assessment (PDNA) point to severe damages, injuries and loss of life in the Southern Departments of Grand'Anse, Les Nippes, and Sud. The human toll of the earthquake for the three Departments amounts to 2,187 deaths, 12,405 people injured (resulting in some cases in permanent disabilities), and more than 300 people missing. The heaviest human toll was recorded in the Sud Department with a total of 10,980 people dead or injured, followed by Grand'Anse and Les Nippes (see Table A5.2). Around 610,900 people or 36.8 percent of the total population of the three Southern Departments were estimated to need humanitarian support following the earthquake.

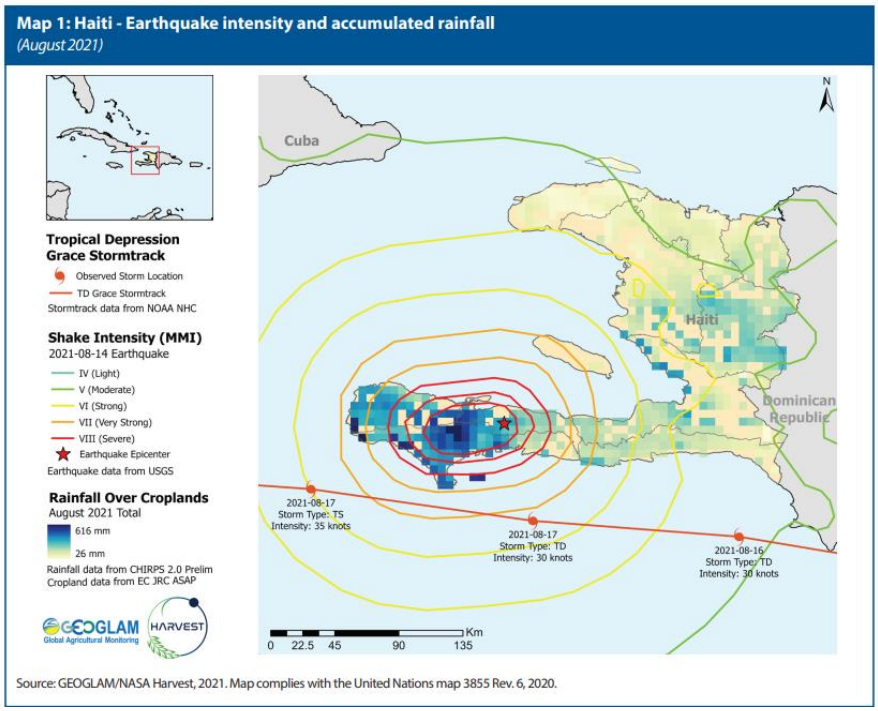
Table A5.2 - The August 2021 Earthquake has Increased Humanitarian Needs in Southern Haiti

Indicator	Grand'Anse	Les Nippes	Sud	Total
Population	489,359	357,930	809,826	1,657,115
No. exposed to highest intensity of earthquake (VII and VIII on MMI scale)	44,430	463,384	463,384	971,198
Percent exposed to MMI VII and VIII	9%	90%	57%	59%
Deaths resulting from the earthquake	218	137	1,832	2,187
Persons injured due to the earthquake	1,652	1,458	9,158	12,405
Population with humanitarian, severe, extreme, and catastrophic needs	200,100	142,900	267,900	610,900
Percent of population with needs	40.8%	39.9%	33.0%	36.8%

Available at *http://www.ipcinfo.org/ipc-country-analysis/details-map/en/c/1152816/.*

Source: Preliminary Findings of a Post-Disaster Needs Assessment, October 2021.

Figure A5.3 - Southern Haiti was Struck by a Severe Earthquake and by Tropical Storm Grace in August 2021



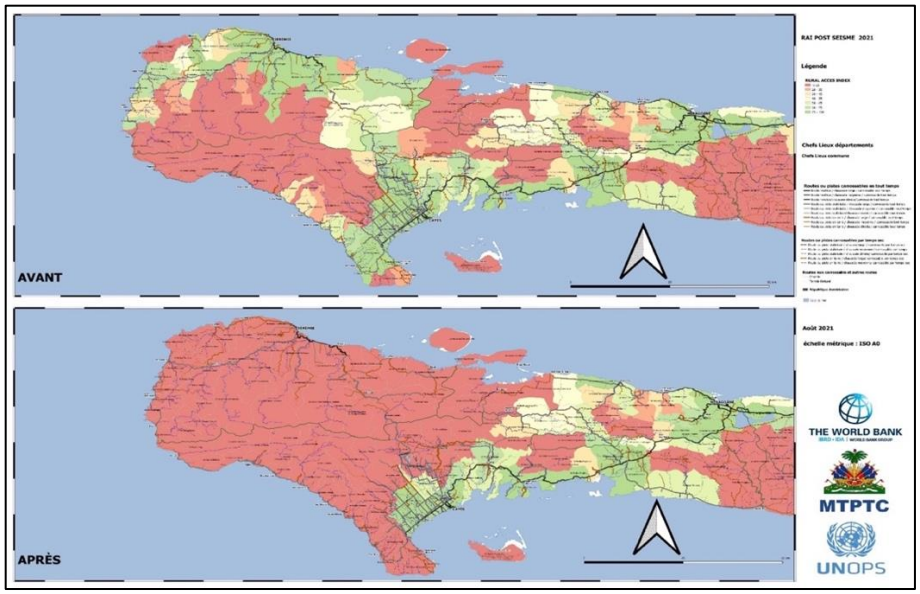
Source: FAO Global Information and Early Warning System Update for the Republic of Haiti, September 22, 2021

7. **Agricultural producers were severely affected by the earthquake, according to a MARNDR post-earthquake assessment.** Through its Bureau de Crédit Agricole (BCA), MARNDR undertook a targeted survey of its customers, beginning the week after the earthquake, to assess the impact of the earthquake on BCA's clients' families and their living conditions. Of the three Departments hit by the earthquake, the Sud Department was found to be the most affected: 59 percent of BCA clients experienced considerable losses, especially in the municipalities of Camp Perrin (21.6 percent), Les Cayes (16.2 percent), and Les Anglais (13.5 percent). In Grand'Anse, the municipalities of Marfranc and Beaumont were the most affected, whereas in Les Nippes, 6 percent of customers were severely affected, with much more pronounced impacts in the commune of Arnaud. An Emergency Food Security Survey (EFSA) conducted by the CNSA right after the earthquake estimated the number of food insecure people at around 230,000 in Grand'Anse, 155,000 in Les Nippes, and 369,000 in the Sud Department. These numbers reflect a major deterioration in food insecurity, with year-on-year increases in the food insecure population of 21 percent in Grand'Anse, 35 percent in Les Nippes, and 59 percent in the Sud.

8. **The earthquake and the subsequent passage of Tropical Storm Grace sharply reduced access to food and to markets for rural populations in the three southern Departments.** According to findings of the Ministry of Public Works, Transport and Communication (MTPTC), before the earthquake, 280,000 people in the three Departments lived in hard-to-reach areas, whereas after the earthquake, this number more than tripled to 980,0000 people, (see Figure A5.4). Indeed, MTPTC estimates that over 400,000 people were left totally isolated by the two disasters, mainly due to landslides. These findings are supported by satellite mappings of landslides by the United States Geological Service and Haiti's National Center for Geo-Spatial Information (CNIGS, see Figure A5.5) included in the Post-Disaster Needs Assessment, as well as by a detailed analysis by the University of

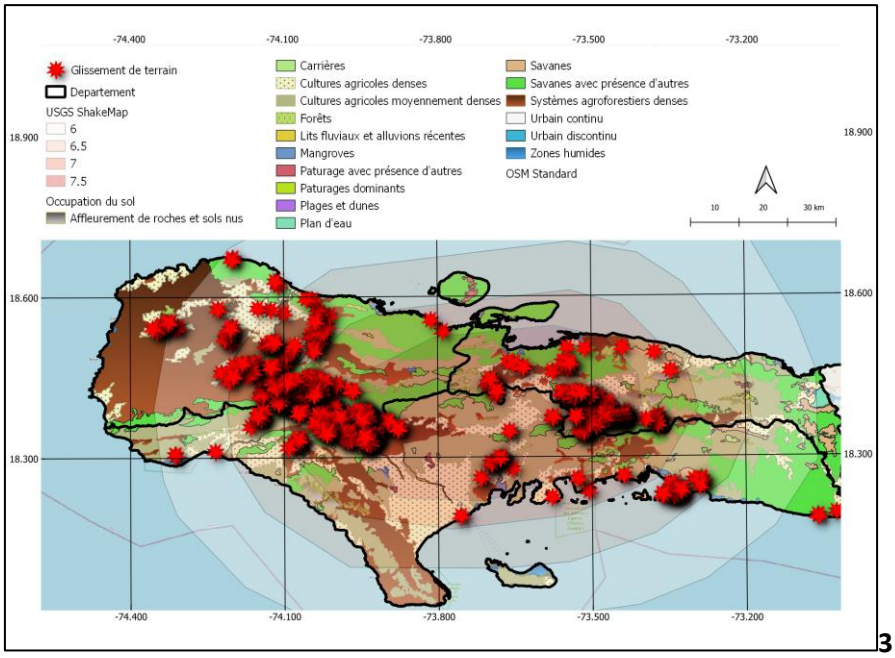
Strasbourg and the Committee on Earth Observation Satellites (CEOS),[68] which used satellite and land-use data to identify over 515 hectares affected by landslides in Les Nippes, over 2,700 hectares in Grand'Anse, and over 3,700 hectares in the Sud Department, for a total of almost 7,000 hectares.

Figure A5.4 - Populations Living in Areas with Difficult Access Before and After the Earthquake



Source: MTPTC, World Bank, UNOPS: "Présentation de l'impact du séisme sur le réseau routier", September 15, 2021

Figure A5.5 - Mapping of Landslides Following the Earthquake and Tropical Storm Grace



[68] See SERTIT/CEOS Recovery Observatory: "*Analyse des glissements de terrain suite au séisme du 14/08/2021 et au passage de la tempête Grace les 16 et 17 août 2021 sur la péninsule sud d'Haïti*". SERTIT is the Regional Image Processing and Remote Sensing Service of the University of Strasbourg, whereas CEOS is the Committee on Earth Observation Satellites.

Source: Preliminary Post-Disaster Needs Assessment, using landslides data from the United States Geological Service and land use data from the Centre National d'Information Géo-Spatiale in Haiti's Ministry of Planning, October 2021.

Donors are Providing Support to Affected Areas, but More is Required

9. **Haiti has been caught between rising food insecurity and declining external assistance.** In particular, overall external assistance has decreased significantly in the past years from 11.1 percent of GDP in 2011 (Post-2010 earthquake), to 2.8 percent in 2017, 2.4 percent in 2018, 1.3 percent in 2019, and 1.4 percent in 2020, with assistance in 2019-20 at the lowest levels (as shares of GDP) since 2004.

10. **The support provided by IDA and other donors can only address a small share of the country's needs, especially with regard to the preservation of agricultural productive assets and improved nutrition.** The huge gap between the available financial resources and the needs to finance the agriculture sector such as described in the PREPOC (*Plan de Relance Économique Post Covid-19*) and the *National Agricultural Investment Plan* (PNIA 2016-2021) is increasing in a context of "donor fatigue," and economic and financial crisis. Of the US$800 million in financing needs identified in the PNIA 2016-21, only US$250 million has been financed, leaving a financing gap of US$550 million that could have contributed to greatly reducing food insecurity over the past few years. Moreover, while donor support has been mainly used to provide emergency response and food assistance, support for planting activities and for the preservation and enhancement of productive assets in the agriculture sector has been limited, creating a downward spiral towards further dependency on imports and safety nets and rising food insecurity risks. Thus, when considering MARNDR's 8-year Framework of Priorities and Action Plan 2017-2025, US$1.5 billion in financing requirements have been identified, of which only 20 percent have been financed to date, leaving a financing gap of US$1.2 billion.

11. **While both agricultural and humanitarian donor-supported operations coexist on the ground, they suffer from poor coordination at different levels, including between ministries, between sectors of cooperation, and between project and programs**. There is insufficient sharing of data and insufficient consultation and coordination to ensure that operations do not leave gaps and do not overlap. For this reason, a background report was commissioned by the Bank and led by the United Nations Food and Agriculture Organization (FAO), as part of the preparation of the PARSA Project, to provide a high-level overview of the food security response architecture in Haiti (key findings are reflected in this Annex and the full report is available in Project Files). The Project will avail of the findings of the FAO analysis and of ongoing exchanges with donor partners to minimize overlaps or gaps in coverage and explore synergies wherever feasible.

12. **In practice, there is limited scope for overlaps between the PARSA Project and the support of other development donor partners, in terms of activities and populations covered.** This is particularly the case as support for agricultural and livelihood needs is insufficient among populations affected by IPC3 (crisis) conditions, who will be the target population for the PARSA Project. Support for emergency agriculture programming–which does not incorporate medium and long-term interventions–only targets 380,000 people, representing around 12 percent of the total IPC3 population. The Interamerican Development Bank (IDB) is providing emergency assistance in various food-insecure regions north of Port-au-Prince (including the Centre, Nord, Nord-Est, and Artibonite Departments). USAID, the Swiss Development Cooperation, the French Development Agency, FAO and the International Fund for Agricultural Development (IFAD) are also financing agricultural development-oriented operations that address food insecurity.[69] However, total assistance by these donor partners amounts to less than

[69] Projects supported by donor partners in the four Departments covered by PARSA include the US$70 million IDB-IFAD-financed PITAG project; the US$26.9 million USAID-financed Haiti Resilience and Agriculture Sector Advancement project; the US$50 million *Projet des Filières Agricoles* financed by Canada; the US$13 million *Agriculture résiliente et alimentation scolaire durable* project financed by the European Union and FAO; the US$15 million PAGAI and Cocoa Value Chains support financed by the Swiss Cooperation and IFAD; the

20 percent of requirements specified in MARNDR's 8-year Framework of Priorities and Action Plan 2017-2025. Moreover, there is very limited geographical overlap of these donor partners' programs with the PARSA Project. The Bank is also providing assistance beyond the agricultural sector via the IDA-financed ASPIRE Project, which targets the poorest population in both urban and rural areas of Grand'Anse, and the PARSA Project will coordinate closely with the ASPIRE Project.[70]

13. **Although CRW funding is intended for emergency (IPC3) but not humanitarian (IPC4+) support, other donors, notably the WFP and NGOs have been attending to Haitians in IPC4+ status**. FAO and the World Food Programme (WFP) are monitoring food insecurity closely, supporting Haiti's National Coordination for Food Security (CNSA). Most humanitarian support is in the form of emergency food assistance, particularly for populations experiencing IPC4 (emergency) insecurity conditions. Humanitarian donor partners generally provide targeted households with food rations, cash transfers, or coupons covering needs for 1-4 months. The largest actor is the World Food Programme (WFP), which is providing over US$6.5 million in cash-based transfers to 482,000 recipients, as well as a more modest cash-for-work program for 3,096 households, totaling US$204,000. The WFP's school feeding program is one of the largest food safety nets in the country, delivering meals to around 300,000 children each day across more than 1,000 schools. WFP, FAO, IDB, UNICEF, and USAID, among others, are engaged in increasing the availability of low-cost staple foods via public policies and imports and making basic high nutritional food products available at low prices. Support is also being provided in response to the August 2021 earthquake. To date, tens of thousands of families, especially in Les Nippes and Sud, have received a cash transfer of US$82 or a month's supply (66 kg) of dry rations from humanitarian partners.

Emergency Food Crisis Support from the CRW - ERF is Justified via the Local Activation Approach

14. **Financial support from the Crisis Response Window (CRW) Emergency Response Fund (ERF) is sought via the Local Activation approach.** Haiti is covered by the ERF trigger-based approach and almost breached the ERF trigger of food security conditions from the Famine Early Warning Systems Network (FEWS NET), as of the most recent update (February 2021). The ERF trigger for food insecurity comprises two rules that have to be met. For Rule 1, 38.6 percent of the country's population was projected to live in districts categorized as IPC3+ (exceeding the ERF threshold of 20 percent of districts), which has been met. For Rule 2, there has been a 4.4 percent increase in the population living in districts categorized as IPC3+ since October 2020 (just shy of the ERF threshold of 5 percent). Given the observed worsening food security conditions in the country since the last update, US$50 million in CRW ERF support for Haiti is being pursued via the Local Activation approach.

15. **The Technical Assessment Review took place on May 5, 2021, and the Technical Expert Group on Food Security (TEGFS) reached the consensus view that the Haiti assessment – submitted under the Local Activation approach – meets the technical requirements for an eligible food security event under the CRW ERF**. The TEGFS also agreed that more recent evidence, including information provided by other reputable food security data sources, (e.g., IPC) demonstrates that the country is facing growing risks which approximate the order of magnitude of the ERF thresholds. There have been no material changes to the food security conditions or drivers in the country since the assessment review. This evidence is based, among other factors, on the following:

- Growth of baseline food insecurity from 35 percent in October 2019 to 42 percent of the population in February 2021, due to worsening macroeconomic fundamentals; a sharp increase in the cost of the Minimum

AFD-financed SECAL project for irrigation; and the prospective US$24 million *Renforcement de la résilience des agriculteurs du Sud d'Haïti* project with FAO and the IDB/GAFSP's prospective US$78 million financing for a PAPER project for agroforestry and rural infrastructure. A full list of donor partner operations and areas for synergies and (very limited) potential overlap is available in Project Files.

[70] The identification and targeting of beneficiaries under ASPIRE is based on the SIMAST and is not based on IPC criteria. The PARSA Project will coordinate closely with ASPIRE to ensure broad coverage without duplication.

Food Basket (MFB); declining external assistance, and irregular and below-average rainfall in 2020-21 that affected production of crops throughout most of the country, with the exception of some irrigated areas;

- Impacts of COVID-19 on food security conditions, due to COVID-19-related social distancing, market access issues, and input shortages that have affected production and marketing of food as well as food prices. FAO projected a 14 percent drop in 2020/2021 in cereal production on top of the 20 percent drop in 2019/2020, with projected declines of 15 percent, 14 percent, and 13 percent, respectively, for maize, rice, and sorghum;
- Current conditions are much worse than historical patterns of food insecurity in Haiti. FAO and WFP sounded the alarm in a November 2020 report, stating that 4 million people (42 percent of the population) faced IPC3 and IPC4 food insecurity during the six months to February 2021, which was projected to increase to 46 percent of the population (4.4 million people) by June 2021 and to 4.6 million (46 percent) by June 2022. Since April 2021, Haiti has been included by the UN in a list of countries at risk of famine (IPC5) conditions.

16. **The response using CRW ERF funds will support rural producers in preserving productive assets and securing the next planting season, thereby avoiding a further deterioration of the food security situation, including those in IPC3 Crisis status falling to IPC4 Emergency status.** It will also contribute to the development of more sustainable and resilient agriculture practices to reduce the risk of future emergencies. The response will build on the results achieved by the IDA-financed RESEPAG II and RPL operations and leverage RESEPAG II's resources and implementation modalities, thereby ensuring a fast and well-targeted implementation of the CRW ERF funds. The response is time sensitive as it needs to respond to the recent adverse events that have affected production, while also respecting the cropping calendar.

There is a Strong Rationale for Additional CRW Financing in Response to the August 2021 Earthquake

17. **In addition to the severe loss of lives and numerous injuries and damage to/destruction of over 77,000 homes, the earthquake resulted in major damage to agricultural infrastructure**. In particular, the earthquake destroyed cisterns, water catchment infrastructures and miles of irrigation channels; left rural feeder roads impassable, thereby reducing food supplies and accessibility to food, and driving up market prices; led to loss of livestock; destroyed structures for raising/slaughtering livestock, storage and processing; and caused crop losses, notably in irrigated perimeters and areas affected by landslides, thus also imperiling farmers' ability to produce in the next cropping season. Preliminary PDNA findings suggest that more than 2.3 million person-days of agricultural employment were lost, equivalent to almost 22,000 full-time jobs, greatly affecting ability to purchase food. The proposed CRW financing of US$30 million will enable households in the earthquake-affected areas to: recover their productive assets and their incomes; increase the resilience of their livelihoods to future shocks; compensate for losses in terms of productive employment among young people; facilitate women's access to productive employment opportunities via recovery interventions, and protect children against all forms of labor, trafficking and violence, which is likely to increase following the consequences of the earthquake on household conditions.

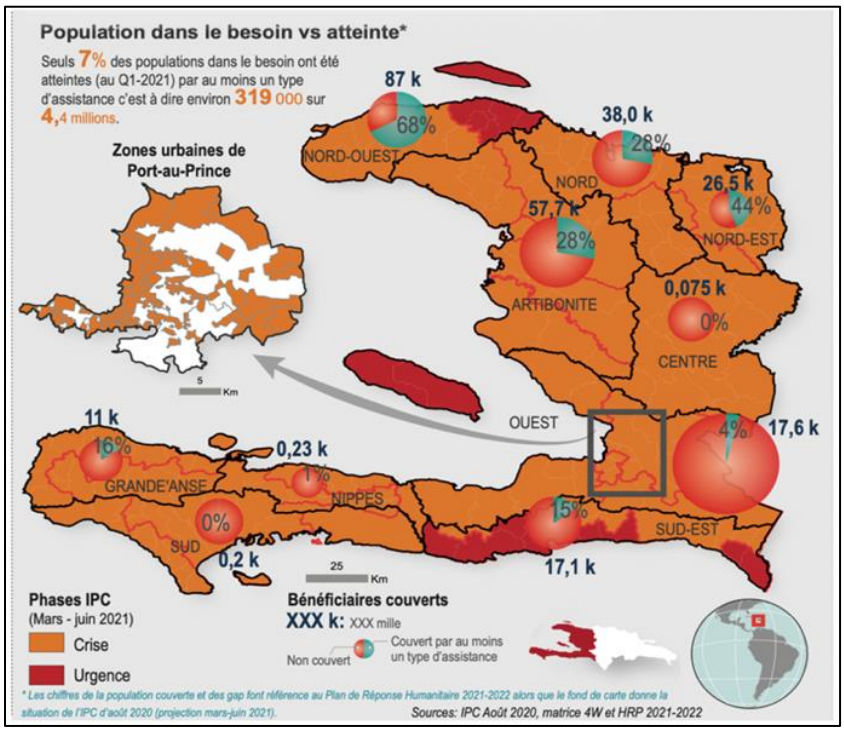
The IDA Support will Facilitate Medium- to Long-Term Resilient Recovery

18. **IDA financing will complement the CRW ERF food security response and CRW earthquake response financing by supporting longer-term resilient recovery.** Whereas the emergency CRW ERF and CRW responses will be targeted primarily at ensuring short-term responses to the crisis levels of food insecurity, including in earthquake-affected areas, the inclusion of US$22 million in IDA grant financing from Haiti's IDA envelope will enable the Project to complement the more immediate responses using CRW financing with resources aimed at promoting longer-term resilience, for example, planting of longer-maturing tree crops, or financing of natural and mechanical structures designed to mitigate the risks of future climate-induced disasters.

The Rationale for Targeting the Project in Grand'Anse, Les Nippes, Sud, and Centre is Strong

19. **Food insecurity was dire in the southern Departments of Grand'Anse, Les Nippes, and Sud even before the August 14, 2021 earthquake, and donor support has been limited.** According to the IPC, 45 to 50 percent of the populations in these three Departments were in IPC Phase 3 or higher food insecurity conditions even before the devastating earthquake on August 14, 2021 and the passage of Tropical Storm Grace over the southern coast of Haiti on August 16-17, 2021. Moreover, external support to respond to the crisis levels of food insecurity has been very uneven across Haiti's 10 Departments. Thus, even though the Centre Department was also classified as IPC3 in the latest IPC review, it is among the Departments that has received the least support from donors to address food insecurity, with close to zero assistance (see Figure A5.6). Similarly, the Sud and Nippes Departments have had less than one percent of persons in need attended by emergency food support. While the proportion is higher in Grand'Anse, at 16 percent of those in need, this remains well below the 28 to 66 percent of persons in need being attended with emergency food support in Haiti's Northern three Departments. ***Thus, the combination of crisis levels of food insecurity together with the devastating impact of the August 2021 earthquake, the large overall financing gap and the particularly large shortfalls of emergency food insecurity responses in the targeted regions, provides a strong rationale for targeting CRW, CRW ERF, and IDA financing to the Departments of Grand'Anse, Les Nippes, Sud, and Centre, via the PARSA Project.***

Figure A5.6 - Map of Haiti by IPC Food Insecurity Levels and Coverage of Affected Populations



Source: Haiti Food Security Cluster, June 1, 2021, available at: http://fscluster.org/haiti

Targeting Support to Eligible Beneficiaries under the PARSA Project

20. **The PARSA Project will rely on a combination of targeting tools in order to target assistance to IPC3 food insecure and earthquake-affected populations in the selected Departments.**

(i) First, the IPC classification will be used to identify areas in the four Departments where persons facing IPC3 (crisis) levels of food insecurity constitute a plurality of the population in the area.

(ii) For all three main project components, following experience under previous IDA-financed operations, the Project will rely on community-level targeting with participatory community beneficiary selection. This will be conducted via Irrigation Associations, watershed committees, producer cooperatives and other farmer groups, associations of processors and village associations, which form the basis of the social fabric in rural areas and generally have registries of their members. The processes are well-established and the Project will ensure that they are open and transparent, with full information sharing, so as to greatly diminish the risk of capture by local elites. Identified beneficiaries will also be classified according to their level of technicality (masons, scrap dealers, etc.) and level of precariousness so as to reach the most vulnerable people (at-risk youth, women, isolated people, persons with disabilities, etc.). Community meetings will be used to discuss and validate the lists, seek inputs on priorities and prepare the organization of the work. Local partners will engage in these processes together with the local PIUs.

(iii) For Component 1, the beneficiary selection for the community public works will, moreover, be cross-checked against the Information System of the Ministry of Social Affairs and Labor (SIMAST). To this end, MARNDR is requesting access to information from the system from MAST.

(iv) For Component 2, which finances increased agricultural production, the Register of Farmers will be used to check that the intended beneficiaries are registered farmers.[71] Under this component, each beneficiary farmer will benefit on average from two improved technical packages for two agricultural seasons (annual crops), or from one technical package for multi-stage agroforestry crops.[72]

(v) For Component 3, beneficiaries will be limited to farmers in the areas identified in the PDNA as most critically affected by the August 2021 earthquake (in the Sud, Les Nippes and Grand'Anse Departments), in line with the action plan already developed with the Ministry and partners.

(vi) For simplification and synergies within and across components, activities may be divided into "blocks of homogeneous interventions", such as irrigated plains for annual crops, cool and wet plateau for market gardening, or high-altitude agroforestry, to simplify the procurement and delivery of inputs and technical packages; production pockets served by the same road network around the same sectors to facilitate delivery of project benefits, e.g. in 'batches' by local partners; or around watersheds to ensure that support in upper reaches (e.g. via temporary employment programs) benefits targeted communities in lower reaches (e.g. those receiving input packages or support for rehabilitation of irrigated perimeters).

21. **The targeting methodology will be strengthened in the course of the project, including by the implementation of the baseline survey, which can serve to fine-tune the subsequent targeting.** In light of the emergency nature of the Project, and in order to respond quickly to the needs of the beneficiaries from the outset of the Project, it may be necessary to first use a lighter “no regret type” method which makes it possible to quickly identify a large universe of beneficiaries, and subsequently to to improve the targeting method, e.g. after 6 months, when the baseline survey is expected to be finalized and familiarity with using and cross-checking of the

[71] A campaign is being launched to update the Farmer Registry, allowing for additions/corrections to the Registry and the opportunity to ask additional questions to improve the identification of beneficiaries according to targeting criteria (e.g. maximum areas; values of holdings; number of heads of cattle; gender of farmers; level of food insecurity, etc.). A specific questionnaire focused on food security will be used when updating the Registry and the entire territory of the localities will be covered and all farm plots geo-referenced.
[72] Beneficiary farmers under Component 2 may have other members of their families benefit from temporary employment under Component 1, in particular to allow cash to flow to the farm family before the harvest. The compilation of beneficiary registers and signature against receipt of benefits, with reviews by independent verifiers, will be used to track the benefits and ensure a fair distribution of benefits per family. At the same time, since 75 percent of people in agricultural regions are part of farming families, the labor-intensive public works will also provide opportunities for the 25 percent of people in rural areas facing IPC3 food insecurity who do not participate in an agricultural activity.

targeting tools is strengthened.[73] The baseline survey will be followed up by annual surveys and an in-depth final survey at the end of the Project.

[73] In rural areas, an investigator can enter 7 to 10 files per day, depending on how difficult it is to reach more remote targeted people. Since the initial targeting may contain 10 to 15 percent of "non-criteria" households, 85,000 households should be surveyed to reach 75,000 beneficiaries. If the field entry stage lasts 90 working days, it would take around 100 investigators to complete the field work.

ANNEX 6: Economic and Financial Analysis

1. **The economic and financial analysis (EFA) is an *ex-ante* evaluation of the Project's future performance**. It takes into account the projected outreach to beneficiaries, hectares covered, returns from improved productivity, post-harvest handling and marketing in the selected crops, and projected cost streams associated with the interventions. It is undertaken to assess the economic soundness of the Project's intervention and the likely impact on beneficiaries, taking into account the estimated incremental benefits and costs of the project-related investments to society as a whole. Crop, livestock and post-harvest activities budgets have been prepared in order to assess the financial impact from the point of view of the beneficiaries and to provide the basis for the economic assessment. The analysis covers the different pre-selected areas separately, with specific models for each agro-ecological zone (AEZ), due to the different crops and activities supported by the Project in each AEZ. The overall analysis is preliminary as it has not been possible to update/verify all the data via field visits to all AEZs. Climate co-benefits of these interventions, including carbon sequestration and mitigated/avoided greenhouse gas emissions, improved sustainable livelihoods for local communities and improved climate change resilience, are calculated separately using the EX-ACT analysis (see Annex 7).

Overall Beneficiaries and Benefits of the Project

2. **The Project will improve food security by increasing immediate food accessibility and availability and building socio-economic resilience via a comprehensive set of activities**. This will include immediate support for household income generation via labor-intensive public works that will generate short-term employment opportunities, and at the same time improve basic community/rural infrastructure, which can, *inter alia*, support community-level efforts to improve food availability and resilience. The Project will also improve food availability via production-oriented activities and will enhance the nutritious value of foods at the household level, which will contribute to addressing malnutrition among children.

3. **The primary beneficiaries of the Project will be the households of around 75,000 farmers** (i.e., 375,000 people), affected by crisis levels of food insecurity in the targeted areas and/or by losses following the major earthquake in August 2021, of whom at least 55 percent will be women farmers. The total agriculture area that will directly benefit from the intervention will be around 22,750 hectares. The value of additional agriculture production has been estimated using representative crops, livestock, and activity budgets. The Project will also indirectly benefit input retailers, traders and processors involved in selected value chains as the agriculture production improvements will most likely increase the inputs requirements for farmers and the sales of output produced by farmers. The additional nutritious food production will improve food security and possibly create a necessary critical mass of marketable products to attract larger scale, higher quality buyers, which would trigger a virtuous cycle of profitable production, improved productivity, and increased purchases of inputs.

4. **Benefits expected from the Project include increased production, improved productivity, increased marketed production, reduced imports of selected crops, reduced post-harvest losses and enhanced food security and nutrition**. These project benefits will result from: (i) improving food production and food security; (ii) promoting the use of sustainable agro-forestry; (iii) poverty alleviation and development of alternative livelihoods for communities; (iv) water management; (v) reduced post-harvest losses; (vi) reduced transaction costs; (vii) improved product quality and producer (farm-gate) prices; and (viii) improved economies of scale.

5. **Increased output, income, and employment in the targeted zones will result in increased demand for goods and services, which is expected to generate additional income and employment effects and increase government tax revenues**. In addition, the potential reduction in imports will result in foreign exchange savings.

Consumers will also benefit from lower consumer prices and improved availability of better quality, locally produced food. Given the unmet domestic demand for food commodities targeted by the Project, it can be assumed that the Project will more than offset any potential negative effects of reduced producer and retail prices.

6. **Major institutional benefits expected from the Project include the following:** (i) producer and marketing groups are effectively functioning and linked to markets; (ii) local communities are managing watersheds in a sustainable way; and (iii) strengthened public institutions are responsible for overseeing watershed development.

7. **The social benefits expected from the project result from its focus on food security and rural poverty reduction.** The Project will provide additional sources of incomes for poor rural households and serve to diversify rural incomes, thereby contributing to reduced vulnerability.

Financial Analysis

8. **The main objective of the financial analysis is to examine the financial viability of the main crops, livestock, and economic activities, which will be supported by this intervention.** It assesses their potential for increased profitability as a result of project interventions and whether:

a. Productive activities supported by the Project will offer sufficient financial incentives to attract participants amongst target group households; and
b. Cash incomes generated by these activities will be adequate for farmers to repay additional investments.

9. **For the purpose of the analysis, representative financial crop, livestock and activity budgets (based on one-hectare, representative herd numbers or activity) have been prepared**. The data are based on information available from similar projects and programs supported by the Government and development partners. The analysis compares the situation without project with the likely situation with project. Without the Project it is expected that farmers will continue with the existing low-input, low-output production systems, with a decreasing output due to land degradation and climate change. The average farm size in the project area varies from 0.5-3.0 hectares. For the purpose of this analysis, an average holding of 1 hectare has been assumed. Four main agro-ecological zones can be identified based on different altitudes in the project areas.

Table A6.1 - Agro-Ecological Zones

Zone	Current Production System	Potential Project Interventions
Altitude > 600 m.	Vegetable production with or without irrigation. Main crops: Cabbage, beans	Post-harvest intervention: stocking; primary processing
Altitude 400-600 m.	Mixed cropping: Jardin Créole (fruit trees; vegetables; food crops)	Trees intensification for soil protection; cropping pattern adjustments; post-harvest interventions: stocking, primary processing and marketing
Altitude 100-400 m.	Corn; Congo Peas	Improved seeds distribution; post-harvest interventions: stocking, primary processing
Altitude 0-100 m.	**Scenario A)** Rainfed agriculture: Corn-sorghum; sorghum-pois Congo	Improved seed distribution; post-harvest interventions: stocking, primary processing
	Scenario B) Small irrigation schemes: winter peas; vegetables	Irrigation schemes rehabilitation; Distribution of seeds and fertilizer; post-harvest interventions: stocking; primary processing
	Scenario C) Rice	Irrigation schemes rehabilitation improved seeds; post-harvest intervention: stocking; primary processing

10. **The most important cultivated crops in the project area include staple crops (rice, corn, sorghum) vegetable crops (cabbage, peas), beans and agro-forestry**. Fruit trees constitute a good share of the whole cropping system in the typical local organization of a farm ('jardin creole'). Irrigation is common in the valleys near the sea, with extensive areas under rice. The Project will promote crops and cropping techniques that will prevent further soil erosion, e.g. encouraging a switch from peanuts and maize to fruit trees. The overall area developed under the Project will be 22,750 ha with 5,000 ha under rehabilitated irrigation schemes.

Financial analysis assumptions and results

11. **The analysis has been developed following the crop model approach.** Average cropping patterns used by farmers on the typical farm size (from 0.5 to 3 ha) in the specific area to be developed under the Project were assessed. The base case scenario, with project, foresees no changes in the cropping pattern and conservative increase in production (yield and value) due to new services, training, improved seeds and crops varieties, and new markets, so as not to overestimate the potential benefit.

12. **The models present a realistic mix of crops over the year's main seasons, reflecting typical crop rotation patterns over the same area**. Above the crop rotation, a large share of the land is occupied with fruit tree crops and agro-forestry activities. Several crops will benefit from project interventions, but for the purposes of this analysis, only a sample (representing the largest share of the area under production) has been taken into account for a deeper analysis. Detailed benefits for major crops have been extrapolated from the crop models on a per-hectare basis. The strong impact of activities to be supported by the Project on crop yields is evident for all crops and will lead to positive incremental revenues. The exact mix of crop and rotation at the farm/household level can be updated as needed to refine the analysis. At this stage, the increase in revenue is significant and ranges from US$130/hectare to US$2,350/hectare, depending on the crops grown.

Table A6.2 - Summary of Financial Results for Representative Crops

Crop	Yield without project (T/ha)	Yield with project (T/ha)	Revenue without project (US$/ha)	Revenue with project (US$/ha)	Incremental Revenue (US$/ha)
Rice	3	5.1	286	558	272
Corn	3	4.2	293	423	130
Sorghum	1.2	2.1	945	1657	712
Peas	1	1.75	1198	2125	927
Beans	1	1.75	673	1295	622
Cabbage	4.5	7.8	1500	2950	1450
Jardin Creole	N.A.	N.A.	1485	3835	2350

Table A6.3 - Financial Results for Livestock Activities

Activity	Net additional income US$/year	Gross Margin
Goats	204	75%
Poultry	500	83%
Beekeeping	210	71%

13. **Livestock models.** Furthermore, the Project will support the restocking of households for goats, poultry, and introducing beekeeping. For analysis purposes three models have been prepared using data provided by on-going projects and pilots in Haiti. Table A6.3 summarizes the results of this support. The financial analysis for the storing and primary processing activities also envisages positive returns and cash flows (see full analysis in Project Files).

Economic Analysis

14. **The economic analysis uses a cash flow model over a 20-year period that includes all investment and operational costs of the Project, as well as the incremental net revenues derived from the crops, livestock, and activity financial models**. The base case scenario makes assumptions on cropping patterns and foresees some switches during project implementation. It also assumes a 75 percent adoption rate of new technologies. The final adoption rate will be calculated based on experiences in Haiti and neighboring countries with similar agro-ecologic conditions.

15. **The economic cost of the Project has been calculated using preliminary estimation of investment and maintenance cost**. Total project investments have been estimated at US$102 million over five years of implementation. The yearly costs to maintain the project-financed infrastructure fully productive after the last year of project implementation (i.e., recurrent costs to ensure the Project's sustainability) are assumed to be 10 percent of total costs of the last year of implementation. For economic analysis purposes, all the project costs have been taken into account. The financial costs have been converted to economic ones using a conversion factor of 0.9 to take into account taxes. An exchange rate of 100 Haitian Gourdes per US dollar has been used for the analysis. The opportunity cost of labor (i.e., its economic price) is US$3 per day, which is the bottom price for unskilled rural labor in rural areas of Haiti. The opportunity cost of capital is set at 12 percent.

16. **The overall program economic cash flow and the corresponding economic internal rate of return (EIRR) have been calculated by aggregating the net incremental benefits obtained by the beneficiaries as a result of additional production (yield increase), livestock, and storing/processing**. The overall area under production with project is 22,750 hectares, with around 8,500 in economic activities related to livestock and around 7,000 hectares for post-harvest packages. The economic analysis with project reflects expected improvements in yields, reductions in post-harvest losses, changes in cropping patterns, and related economic activities. Moreover, livestock plays an important role in the family farming economy, and it is expected that the farming improvement and expansion will bring benefits to this window as well (e.g., in fodder production, water availability, and increases in farm income to be invested in barn improvements).

17. **The economic analysis is based on direct costs and benefits, and therefore social and indirect benefits were not taken into account**. These include for example creation of employment, enhanced competition in input markets, enhanced national food security, import substitution, foreign currency earnings, emergence of farmers' organizations, etc. It is important to note that without project intervention the current productive situation will most probably deteriorate as the soil in the area are highly deteriorated, inputs are not of the best quality and post-harvest handling of the production is poor. Drainage problems will also increase in the irrigated valleys, as will salinity.

18. **The Economic Internal Rate of Return (EIRR) under the base case scenario is 17.4 percent and the Net Present Value (NPV) is US$24.9 million, using a 12 percent discount rate**. These results indicate that, on the basis of an opportunity cost of capital of 12 percent, the Project shows a satisfactory EIRR and NPV, and is justified on economic grounds, even without considering climate co-benefits. It should be kept in mind that not all potential economic benefits have been included in the analysis. Therefore, it is safe to assume that the estimated economic benefits are on the low side of the potential economic returns that can be expected.

19. **The returns are robust under a range of assumptions with regard to cost increases and/or benefit reductions.** Agricultural production is typically a risky business with risks related to prices (input and output prices) and to production (drought, inundation, disease, pests, and post-harvest losses, etc.). To take into account these risks, the sensitivity analysis was conducted by varying the benefits generated by the agriculture production, the increase in costs for the investments of the projects and delays in implementation due to country instability.

Finally, the switching values have been calculated to provide a clear picture of the maximum reduction in benefits and increase in costs that the project can bear before being economically unviable. A number of scenarios have been tested to establish the economic viability of the Project in the event of adverse factors. The sensitivity analysis confirms that EIRR and NPV are robust. Increases of investment costs by 10 and 20 percent would bring the EIRR to 15.4 percent and 13.6 percent, respectively, with positive NPVs. The Project is more sensitive to changes in benefits, as decreases in expected benefits by more than 23 percent would lead to unsatisfactory economic indicators.

Table A6.4 - Sensitivity Analysis for the Economic Internal Rate of Return Calculations

Base case scenario	Project Benefits			Project Costs		Delay in benefits		Adoption rate	
	-30%	-20%	-10%	+10%	+20%	1 year	2 year	60%	50%
17.4%	10.4%	12.8%	15.2%	15.4%	13.6%	14.3%	12.0%	11.4%	8.6%
				Total costs		Total benefits			
Switching values				31%		-23%			

20. **It is expected that in the medium- to long-term, the Project will have a substantial positive fiscal impact**. This is mainly due to: (i) increased output, income, and employment, resulting in increased tax revenues, and (ii) multiplier effects due to increased economic activities in the targeted area, resulting in increased demand for goods and services, which is expected to generate additional income and employment effects. Furthermore, substantial foreign exchange savings can be expected, resulting from a reduction in imports of major staple crops of which Haiti is currently a net importer.

21. **The results of the economic analysis are even stronger when taking into account climate co-benefits.** The climate co-benefits included in the economic analysis correspond to the economic valuation of expected reductions in GHG emissions (net mitigation of 130,524 tCO_2e per year). As per the Bank guidelines on economic assessment of climate change mitigation co-benefits, the economic analysis includes a Low Carbon Prices Scenario (LCP) and a High Carbon Prices Scenario (HCP). Table A6.5 below summarizes the economic indicators under the three scenarios included in the analysis – baseline, LCP and HCP scenarios. The Project would likely generate other co-benefits linked to climate resilience. Improved soil and water management generate environmental benefits beyond GHG emissions reduction. According to the World Resources Institute (WRI, 2021),[74] research shows that every US$1 invested in restoring degraded land generates an estimated US$7–30 in economic benefits, including improved food production, carbon sequestration, and water quality. Moreover, there is empirical evidence that creole gardens can also bring additional benefits in terms of biodiversity and climate change adaptation capacity of productive ecosystems in areas highly vulnerable to climate change impacts. These climate co-benefits are not accounted for in this *ex-ante* analysis but, with improved information from the investment sub-projects implementation, it would be relevant information to enhance the mid-term and final evaluation of the Project.

Table A6.5 - Economic Indicators – Baseline scenario, LCP scenario and HCP scenario

Economic Indicators	Baseline scenario	LCP scenario	HCP scenario
EIRR (%)	17.4%	29.2%	45.8%
E-NVP (USD)	24,896,195	71,972,699	118,846,535
Switching value for benefits (%)	-23%	-47%	-59%
Switching value for costs (%)	31%	88%	146%

[74] https://www.wri.org/insights/restoration-one-most-overlooked-opportunities-economic-growth

ANNEX 7: Greenhouse Gas Accounting

1. In its 2012 Environment Strategy, the Bank adopted a corporate mandate to conduct greenhouse gas (GHG) emissions accounting for investment lending as an important step in managing and ultimately reducing GHG emission. The World Bank adopted the Ex-Ante Carbon-balance Tool (EX-ACT), which was developed by the Food and Agriculture Organization of the United Nations (FAO) in 2010, to assess the impact of agricultural and rural development investment lending on GHG emission and carbon sequestration. EX-ACT allows the ex-ante assessment of a project's net carbon-balance, defined as the net balance of CO_2 equivalent GHG that will be emitted or sequestered as a result of project implementation compared to a *without project scenario*.

2. **The Project will improve food security and climate resilience through the application of Climate Smart Agriculture (CSA) technologies and best practices implemented by targeted beneficiaries, including those affected by the August 2021 earthquake**. Drawing on previous Bank Projects in Haiti (RESEPAG and RPL), the Bank team has developed investment packages for productive models with the most promising financial, environmental (including mitigation and adaptation) and economic impacts. These models were applied to estimate incremental net benefits for the Economic and Financial Analysis (EFA) of the Project and are also applied to the GHG Analysis. Data from MARNDR and local partners were used to assess the investment models and technological packages promoted by the Project. The period of analysis is 20 years (5 years of implementation followed by a 15-year capitalization phase). 'Without project' and 'with project' trajectories are based on average technical references. Table A7.1 summarizes the technological packages supported by the Project.

Table A7.1 - List of Investment Models/Technological Packages Supported by the Project

	Annual / perennial crop models	Crops	Number of hectares	Land use /land use change	Improved practices
1	Model - Rice	Rice	1,137.50	Remaining agriculture land for rice production	Soil and plant nutrients improved management
2	Model - Corn	Corn	4,550.00	Remaining agriculture land with annual crops	Improved agronomic practices, no till & residue retention.
3	Model - Sorghum	Sorghum	3,412.50	Remaining agriculture land with annual crops	Improved agronomic practices, no till & residue retention.
4	Model - Peas	Peas	3,412.50	Remaining agriculture land with annual crops	Improved agronomic practices, no till & residue retention.
5	Model - Beans	Beans	4,550.00	Remaining agriculture land with annual crops	Improved agronomic practices, no till & residue retention.
6	Model - Cabbage	Cabbage	1,137.50	Remaining agriculture land with annual crops	Improved agronomic practices, no till & residue retention.
7	Model - Creole garden	Trees, fruit trees, vegetables, food crops.	4,550.00	From degraded lands to agroforestry - mutistrata system	Restoration of creol gardens affected by the earthquake
	Total area annual and perennial crops (ha)		**22,750**		
	Livestock	**Units**	**Area (ha)**	**Main asumptions**	
1	Goats	9,000	900	Assuming light-to medium grazing	
2	Chicken	3,500	1	Technological package include 10 poultry per beneficiary	
3	Bees	3,500	175	100 units (ruche) per beneficiary, protecting 5 hectares of dry forest each	
	Total area livestock (ha)		**1,076**		
	Post Harvest	**Units**	**Area (ha)**	**Main asumptions**	
1	Silos	5,500	1	Any incremental use of energy is offset by the reduction in produce losses	
2	Grading/drying space	2,100	5	Any incremental use of energy is offset by the reduction in produce losses	
	Total area post-harvest infrastructure (ha)		**6**		

3. **The GHG accounting considers the following projected interventions with implications on GHG fluxes**: (i) the transition from business as usual to climate resilient and sustainable models, (the area and dynamics, i.e. 'initial', 'without project' and 'with project', of diverse land uses are detailed below); (ii) the likely trends of inputs utilization (fertilizers and pesticides), energy consumption and construction of new infrastructure, based on the changes in production intensity and efficiency gains, which are relevant aspects of CSA technologies and practices. Table A7.2 summarizes key assumptions applied to the management options for annual crops, excluding rice production. Over 17,063 hectares of annual crops, excluding rice, will be subject to improved agricultural technologies and practices, 1,138 hectares of rice will receive improved soil and nutrients management. The amounts (tons per year) of fertilizers (mainly other N-fertilizers, phosphorus and potassium) and pesticides were calculated based on data from models implemented by the RESEPAG and RPL Projects. The Project provides technical support to ensure a safe and efficient use of inputs. No land use change is envisaged (i.e. annual crops remain annual crops and irrigated rice remains irrigated rice). In the case of perennials, the Project will support the transition from degraded lands to multi-strata agroforestry systems on 4,550 hectares of creole gardens affected by the August 2021 earthquake. The Project will also support the transition of degraded lands to livestock areas under sustainable management practices on 900 hectares for goat farming (9,000 heads), 175 hectares of dry forests protected for beekeeping (3,500 beehives) and less than 1 hectare for poultry production (3,500 chicken broilers), (See Table A7.3).

Table A7.2 - Management Options for Annual Crops

Model	Tillage management	Input of organic material	Residue management
Improved production	None	Low carbon input	Retained
Business as usual	Full tillage	High carbon input, no manure	Burnt

Table A7.3 - Livestock and Manure Management

Livestock categories	Head number (mean per year)			Technical mitigation option (%)								
	Start	Without project	With project	Feeding practices*			Specific Agents*			Breeding*		
				Start	With out	With	Start	With out	With	Start	With out	With
Dairy				0	0	0	0	0	0	0	0	0
Cattle				0	0	0	0	0	0	0	0	0
Sheep				0	0	0	0	0	0	0	0	0
Goats			9,000	Feeding practices: e.g., more concentrates, adding certain oils or oilseeds to the diet, improving pasture quality, etc. Specific agents: specific agents and dietary additives to reduce CH4 emissions (Ionophores, vaccines, bST, etc.). Breeding: increasing productivity through breeding and better management practices (reduction in the number of replacement heifers).								
Poultry			3,500									

4. **Energy consumption**. In the case of agroforestry and dry forest management, beneficiaries would likely extract wood for energy purposes, so the analysis includes estimates of energy consumption from wood. Some models under the Project result in enhanced productive systems while others assume a change in economic activity for potential beneficiaries. The models with no change in economic activity propose technologies and

practices leading to efficiency gains and increased productivity, so that increases in energy consumption due to higher production volumes would be offset by efficiency gains. Post-harvest management will lead to reduced produce losses which are assumed to offset any incremental use of energy from post-harvest investments. For models that result in changed economic activity, (e.g. the livestock models), energy consumption linked to production and transport is estimated at 3,264 tCO2e over the 20-year period of analysis.

5. **Productive infrastructure.** The project design takes into account the construction of metal structures for poultry production and silos, and concrete structures for grading/drying facilities. Regarding beehives, it is assumed that wood used in constructing beehives is sourced locally and all related GHG emissions are already considered in the energy consumption estimates from the Project's agroforestry models (creole gardens) and dry forests management. The Project will rehabilitate irrigation systems but not develop new systems, and since the irrigated area will not change, irrigation infrastructure is not considered a relevant source of increased GHG emissions. Indeed, any potential increase in emissions from rehabilitation works and energy use will be offset by reduced water waste. Finally, the analysis takes into account the rehabilitation of 100 kilometers of rural roads.

Results

6. **The PARSA Project will result in a significant reduction in carbon emissions.** A GHG appraisal of the Project was carried out using the ex-ante carbon-balance tool (EX-ACT), which quantifies the net carbon balance with regard to tCO2e, resulting from GHGs emitted or sequestered during the project implementation and capitalization period (20 years) compared to the without-project scenario. The Project will lead to a reduction of 130,524 tCO_2e emissions annually, when compared to a business-as-usual baseline scenario. This is equivalent to 5.5 tCO_2e emissions reduced annually per hectare. After 20 years, GHG mitigation benefits will amount to a reduction of 2,610,470 tCO_2e. The main results of this GHG analysis are summarized in Table A7.4 below.

7. **The Project will yield the following carbon sources and sinks**. The main GHG emissions will come from inputs and infrastructure, followed by livestock. The sequestration benefits will come principally from creole gardens, improved practices in annual crops, restauration of degraded areas and avoiding increased dry forest degradation near beekeeping areas.

Table A7.4 - Results of the ex-ante GHG analysis in tCO2e

Project name	PARSA						
Continent	Caribbean	**Project duration (in years)**		**Total area (ha)**	23,826	**Global warming potential**	
Country	Haiti	Implementation	5	Mineral soil	23,826	CO_2	1
Climate	Tropical	Capitalization	15	Organic soil	0	CH_4	34
Moisture	Moist	Period analysis	20	Waterbodies	0	N_2O	298

GROSS FLUXES — In tCO_2-e over the whole period analysis

PROJECT COMPONENTS		WITHOUT	WITH	BALANCE
Land use changes	Deforestation	0	0	0
	Afforestation	0	0	0
	Other land-use	0	-518,276	-518,276
Cropland	Annual	639,219	-106,142	-745,360
	Perennial	0	-1,422,040	-1,422,040
	Flooded rice	13,131	-46,897	-60,028
Grasslands & Livestock	Grasslands	0	-18,653	-18,653
	Livestock	0	29,158	29,158
	Forest mngt.	24,136	0	-24,136
	Inland wetlands	0	0	0
	Coastal wetlands	0	0	0
	Inputs & Invest.	275,550	424,416	148,866
Total emissions, tCO_2-e		**952,036**	**-1,658,435**	**-2,610,470**
Total emissions, tCO_2-e/ha		**40.0**	**-69.6**	**-109.6**
Total emissions, tCO_2-e/ha/yr		**2.0**	**-3.5**	**-5.5**

SHARE PER GHG OF THE BALANCE — In tCO_2-e over the whole period analysis

CO_2 BIOMASS	CO_2 SOIL	N_2O	CH_4	ALL NON-AFOLU EMISSIONS*
0	0	0	0	
0	0	0	0	
-67,550	-450,726	0	0	
0	-686,829	-31,630	-26,901	
-1,094,844	-327,197	0	0	
0	0	-1,846	-58,181	
0	-18,653	0	0	
		1,743	27,415	
-24,136	0	0	0	
0	0	0	0	
0	0	0	0	0
	0	31,026		117,840
-1,186,530	**-1,483,405**	**-708**	**-57,667**	**117,840**
-49.8	**-62.3**	**0.0**	**-2.4**	**4.9**
-2.5	**-3.1**	**0.0**	**-0.1**	**0.2**

AVERAGE ANNUAL EMISSIONS — In tCO_2-e/yr

WITHOUT	WITH	BALANCE
0	0	0
0	0	0
0	-25,914	-25,914
31,961	-5,307	-37,268
0	-71,102	-71,102
657	-2,345	-3,001
0	-933	-933
0	1,458	1,458
1,207	0	-1,207
0	0	0
0	0	0
13,777	21,221	7,443
47,602	**-82,922**	**-130,524**

+ = Source / - = Sink
Results presented here include GHG fluxes on mineral and organic soils
See further down for detailed results on organic soils
* Includes fisheries, acquaculture and inputs & investments that are not included in the AFOLU definition.

Uncertainty level	tCO2-e/yr	Percent
Vithout	47,602	44%
Vith	-82,922	41%
Balance	-130,524	43%

8. **A sensitivity analysis for the GHG analysis finds that the uncertainty, as calculated by the EX-ACT Tool, is 43 percent.** This analysis was run using mostly Tier 1 coefficients, which in some cases may provide over or underestimated values. It is a relevant source of uncertainty in the estimation of GHG emission/sequestration scenarios for the Project.

ANNEX 8: Summary Gender Action Plan

1. **Haitian women play a prominent role in agricultural production and marketing**. They are food producers, both on farmlands and in backyard production, and earn money marketing fresh and processed agricultural products. In addition to producing food, women are the main contributors to life-sustaining domestic activities. This includes childcare, particularly for children 5 years and under, as well as providing and preparing food for their families. On average, around 47 percent of households in the targeted Departments in Haiti are female headed. Endemic poverty forces many men to migrate to earn a living in foreign countries and send remittances back to their families. Many adult women are left with the responsibility for managing the family farm and caring for the household, and climate change and hydro-meteorological and geophysical disasters have had especially harsh effects on female-headed households, notably in their roles as family caregivers, producers and marketers of food in their communities.

2. **Gender gaps: a range of gender gaps in the agricultural sector result in particular challenges for Haitian women farmers.** Even prior to the recent natural disasters, major gender gaps affected women's incomes from agriculture that in turn affected their ability to produce and access food. These include: (i) Low levels of literacy (58 percent for women in 2016, compared to 65 percent for men);[75] (ii) insufficient access to technical knowledge and training in improved agricultural skills; (iii) insufficient access to cutting edge agricultural inputs and technologies; (iv) insufficient access to labor for major land and water management activities; (v) a lack of training on organizational and business management for agricultural and marketing activities, and (vi) inadequate facilitation of their activities in rural development value chains.

3. **Actions to address gender gaps: various gender gaps will be addressed under the Project.** In terms of activities, the Project will include targeted methods designed to reduce identified gender gaps. For example, by supporting temporary employment programs that are not only oriented to rehabilitating rural productive infrastructure but also to critical supporting areas, including the provision of childcare and meals for persons employed in these programs, the scope for women's participation in community participatory work programs on both the rural infrastructure side and on the provision of childcare and meals is greatly increased. Second, by supporting temporary employment programs that strengthen water resources and land management and feeder road access to farms, the Project will help to overcome financial barriers to securing labor for major works that strengthen the resilience of farms, thereby addressing a barrier that is particularly severe for female-headed farming households. Third, by providing equitable access to training on organizational and business management for agricultural and marketing activities to strengthen post-harvest value addition, processing and marketing, the Project will address a key gender gap in an area in which women play a very important role in Haiti. Fourth, by providing input packages, livestock, equipment, and improved technologies, and by placing a key emphasis on backyard production, female-headed households will secure opportunities that will reduce gender gaps in these areas. Moreover, the back-yard production dimension of Component 2 is expected to be particularly beneficial to women facing intersectional challenges, e.g., women who are aged or are also persons with disabilities.

4. **The Project will also provide support in ways that consider and address gender gaps in terms of literacy and knowledge.** Earlier studies of participation in agricultural extension studies in southern Haiti, show that there is a great demand for technical knowledge, e.g., via agricultural extension services, among female-headed farm households.[76] Because women have lower levels of literacy, the transmission of technical information will be done

[75] https://data.worldbank.org/indicator/SE.ADT.LITR.FE.ZS?locations=HT. Note, the literacy rate for young Haitian women (ages 15-24) has risen to 83 percent, thereby closing the gap with young Haitian men.
[76] Arias D. et al 2013. "Determinants of Agricultural Extension Services: The Case of Haiti". LCSSD Food Paper Series. The World Bank.

via hands-on demonstrations and will be accompanied by regular follow-up to ensure that beneficiaries are applying the methods effectively. This will apply, for example, to the use of potentially labor-saving technologies such as fodder choppers, improved food processing and hygienic food handling practices, and the provision of livestock kits (e.g., for rearing goats and chickens, or for beekeeping). Moreover, the Project will work with participating entities including Irrigation Associations, NGOs, producer organizations and other service providers to ensure that services are provided in appropriate spaces and at convenient times for women beneficiaries, and the Project will encourage these partners to draw on skilled women to provide support to targeted female-headed households. Guidance for these approaches will be incorporated in the gender section of the Project Operational Manual and will be overseen by the PIU's gender focal person.

5. **The Project will also ensure the application of provisions in the ESMF, ESCP and LMP related to ensuring safe spaces for persons of all genders.** Guidance and procedures will be provided in these documents and in the POM to avoid gender-based violence (GBV) arising in project-related activities, and especially in the participatory community works programs. Grievances related to GBV and response times to such grievances will be monitored closely by the PIU Coordinator, the PIU's gender focal person and by IDA's task team. Importantly, the satisfaction with project activities indicator will also be disaggregated by gender to monitor levels of, and any differences in, satisfaction for persons of different genders.

6. **Monitoring of progress in closing gender gaps: The Project will establish key outcome targets to monitor progress in closing the gaps that women in farming households in the target areas face.** In particular, it will set targets for the proportion of women beneficiaries under PARSA that exceed the proportion of women farmers in the farming population, and it will: (i) track improvements in Food Insecurity Experience Scale (FIES) ratings resulting from access to temporary employment opportunities; (ii) monitor enhancements in minimum dietary diversity for women and for children under 5 years of age, (iii) monitor increased adoption of improved agricultural technologies by women farmers as a result of support for input packages; (iv) track women's access to post-harvest processing and back-yard production support; and (v) the Project will track similar indicators for women farmers in earthquake-affected areas, as well as the area farmed by female beneficiaries that is recovered for agricultural production with Project support following earthquake-related damage. It is expected that, overall, women beneficiaries will account for at least 55 percent of overall project beneficiaries, with a higher proportion (at least 60 percent) in the case of post-harvest processing and backyard production.

7. **Table A8.1 below presents the linkages from gender gaps to actions to address the gaps to monitoring of progress on closing gaps, and their relationship to the Bank's Gender Strategy**

Table A8.1: Linkages from Gender Gaps to Actions to Monitoring and Strategic Priorities[77]

Gender Gap	PARSA Actions	Monitoring Indicators	Bank Gender Strategy Pillar
Women farmers have lower levels of literacy and less access to technical knowledge and training in improved agricultural skills, than do men farmers	Technical information will be transmitted via hands-on demonstrations and will be accompanied by regular follow-up to ensure that beneficiaries are applying the methods effectively. It will also be provided in appropriate spaces and at convenient times for	• Farmers adopting improved agricultural technologies – Female (Number)	• Close gender gaps in human endowments • Women's voice and agency

[77] See the *World Bank Group Gender Strategy (FY16-23): Gender Equality, Poverty Reduction and Inclusive Growth*, available at: https://openknowledge.worldbank.org/handle/10986/23425

	women beneficiaries and, where feasible, by skilled women to reach female-headed households		
Women farmers have less access to cutting edge agricultural inputs and technologies	The Project will target input packages, livestock, equipment, and improved technologies, and place a key emphasis on back-yard production, in which women play a key role.	• Farmers adopting improved agricultural technology - Female (CRI, Number) • Increase in the volume of nutritious agri-food products produced by female beneficiaries (Percentage)	• Close gender gaps in human endowments • Ownership and control of assets • More and better jobs
Women farmers have insufficient access to labor for major land and water management activities	The Project will support major works that strengthen the resilience of farms via the temporary employment programs, thereby addressing a barrier that is particularly severe for female-headed farming households, and will finance labor-intensive public works for both rural infrastructure and supporting activities so as to facilitate women's access to these employment opportunities	• Area farmed by female beneficiaries recovered for agricultural production with Project support following damage by the August 14, 2021 earthquake (Hectares) • Person work-days generated for female beneficiaries by labor intensive public works programs (Days) • Person work-days in earthquake-affected areas generated for female beneficiaries by labor intensive public works programs (Days)	• Close gender gaps in human endowments • More and better jobs
Women producers face a lack of training on organizational and business management for agricultural and marketing activities, and inadequate facilitation of their activities in rural development value chains	The Project will provide equitable access to training on organizational and business management for agricultural and marketing activities to strengthen post-harvest value addition, processing, and marketing	• Female farmers reached with agriculture assets and services that reduce post-harvest losses (Number)	• Close gender gaps in human endowments • Women's voice and agency
Female project participants are especially vulnerable to GBV	Guidance and procedures will be provided in the POM to avoid gender-based violence (GBV) arising in project-related activities, and especially in the public works programs	• Grievances related to Gender-based Violence registered and addressed in a timely manner (Percentage)	• Women's voice and agency
Gender gaps affect women's incomes from agriculture and in turn their ability to produce and access food	The project will finance temporary employment programs, input packages, post-harvest loss reduction and back-yard production activities that target women in farming households	• Proportion of targeted beneficiaries with improved FIES ratings that are female (Percentage), (with the same indicator for earthquake-affected areas) • Increase in the share of targeted women beneficiaries that consume a diet with minimum dietary diversity (Percentage) • Increase in the share of targeted children under 5 that consume a diet with minimum dietary diversity (Percentage)	• Close gender gaps in human endowments

ANNEX 9: Applying a Do No Harm Approach in Project Activities in Relation to Covid-19

1. **Haiti reported its first case of the novel coronavirus (COVID-19) on March 19, 2020, and as of December 7, 2021, there have been a reported 25,638 cases and 750 deaths.**[78] The COVID-19 pandemic, and associated lockdowns, breakdowns in value chains and loss of employment, are expected to have long-lasting effects on household welfare, and have contributed to the increase in extreme poverty (less than US$1.90 per day) from 25.9 percent in 2019 to 27.3 percent in 2020. In response, the Government of Haiti's (GoH) has adopted a Post COVID-19 Economic Recovery Plan for 2020–2023 to address the human plight and economic challenges associated with the pandemic. The WBG has also prepared a WBG COVID-19 Crises Response Approach Paper[79] and adopted a Country Program Adjustment Responding to COVID-19. The Project will be guided by these policy frameworks.

2. **The key COVID-19 consideration for the PARSA Project is to ensure that the Project rigorously applies a Do No Harm approach**. In line with the practice adopted in the emergency component triggered under the Resilient Productive Landscapes Project, the Project will develop a detailed COVID-19 plan and procedures in the POM, and all Project activities will be subject to strict health measures to prevent the spread of COVID-19, to be applied to all project stakeholders, including personnel from MARNDR and other GoH agencies; Municipal Authorities; PIU staff; partner agencies such as Irrigation Associations, producer organizations, NGOs, private engineering companies and service/input providers; project beneficiaries; and visiting Bank task teams.

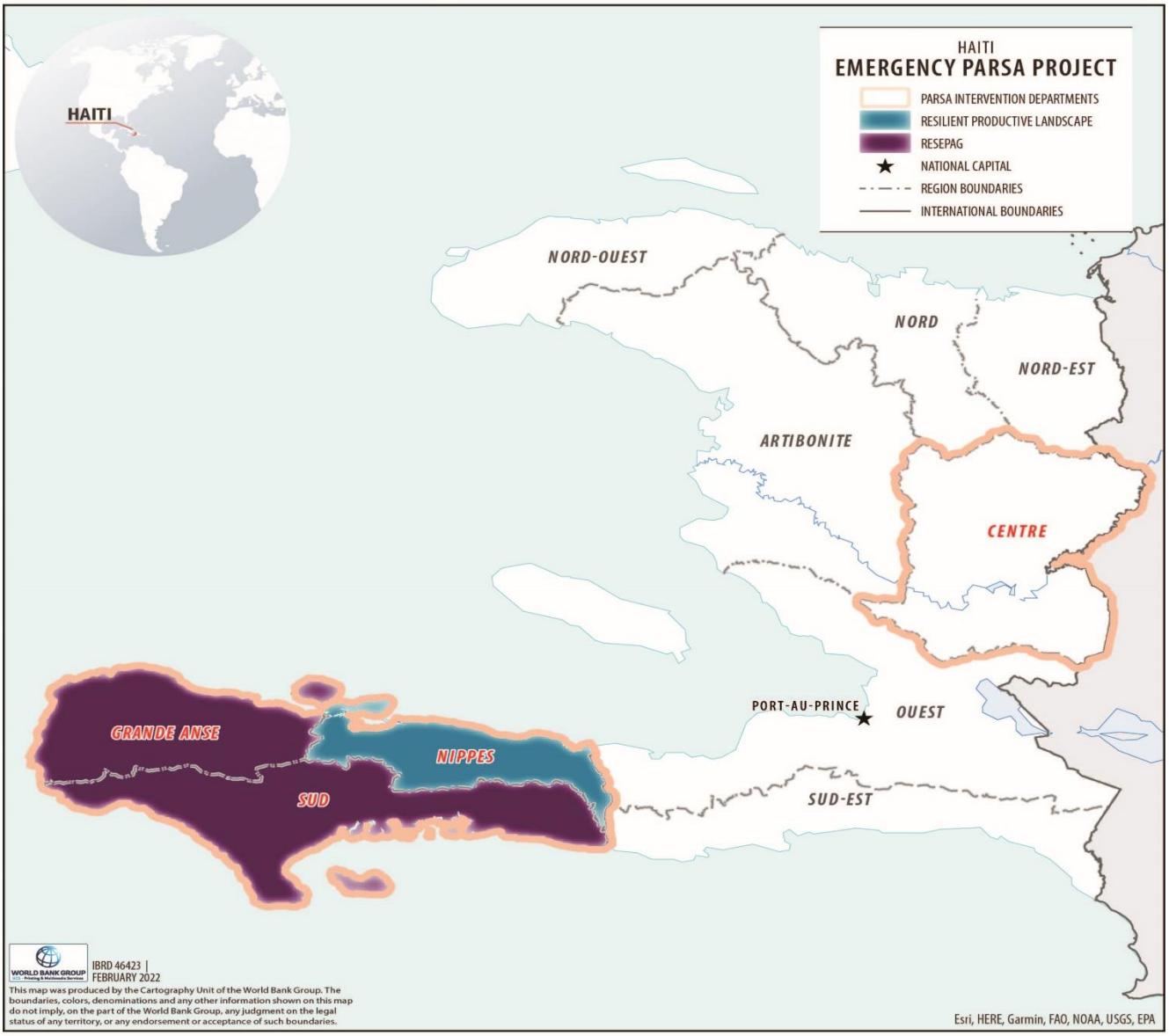
3. **Key measures that will be included in the Project's guidelines for a Do No Harm approach in relation to COVID-19 include the following**:

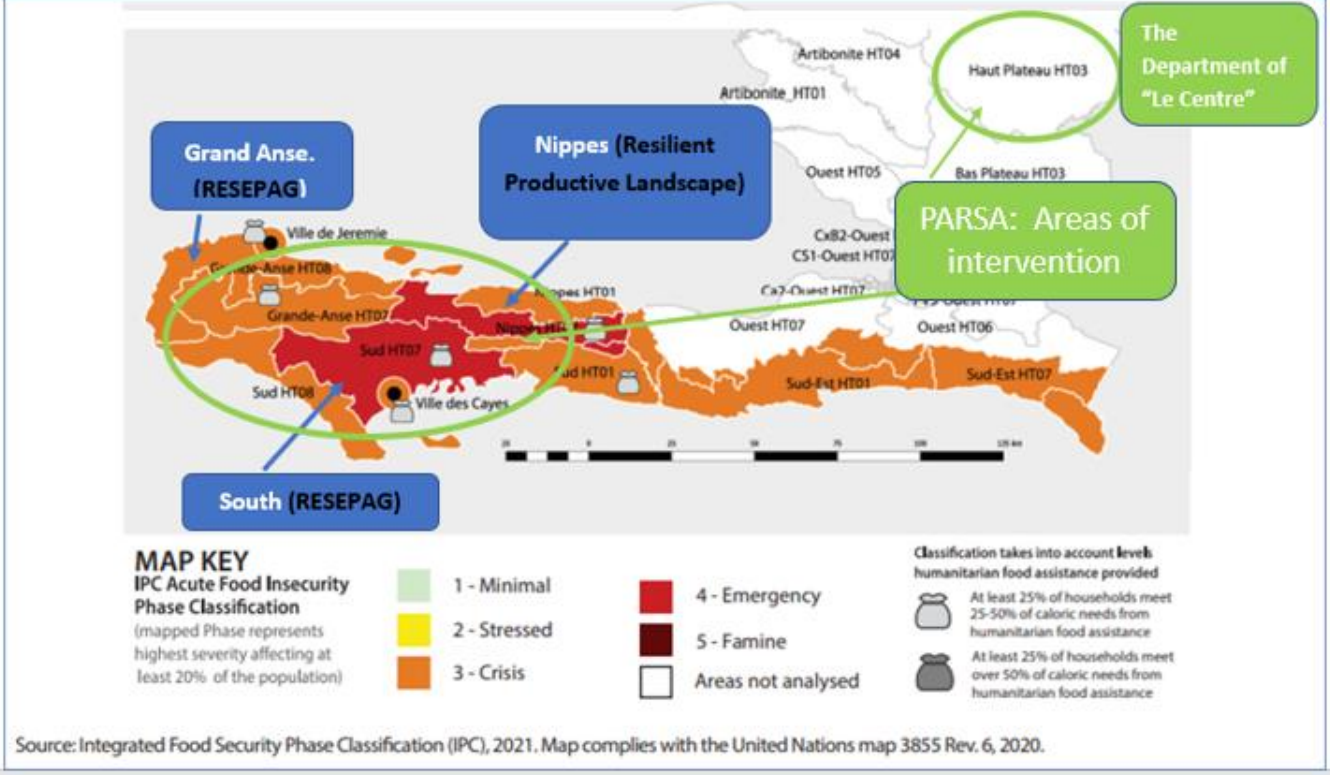
- Installation of handwashing stations and alternatives (e.g., 70 percent isopropyl alcohol): Installation of such facilities at workplaces under each component (e.g., temporary employment creation work sites, entrances and strategic places in offices and other sites, including rest areas, canteens, toilets, etc.).
- Providing cleaning and disinfection products, establishing daily cleaning routines at these sites, and ordering the necessary personal protective equipment for the staff engaged in the cleaning activities (for example, products for cleaning controls in accordance with the directives of the Ministry of Health).
- Ensuring vehicle hygiene for the movement of Government, PIU, IDA and partner teams in the field.
- Informing suppliers and farmers via spots and radio programs and social media on COVID-19 safety measures and the logistics for the Project's activities.
- Applying safety measures at all project events/activities, including: (i) the use of masks and maintenance of physical distancing, i.e. a minimum of 2 meters between each person in all project-supported activities; (ii) temperature measurements at the beginning of activities to screen out potentially ill persons; (iii) staggered hours at distribution sites for the provision of inputs, etc., to minimize large groupings of persons; (iv) audio or video recording of beneficiaries who acknowledge receipt instead of the collection of signatures.
- Supporting high-risk farmers (including the elderly, immunocompromised or those with pre-existing conditions), as well as pregnant/lactating beneficiaries to access project resources and services safely, e.g. by sending agents to receive inputs on their behalf or delivering inputs and services rations to their home.
- Developing guidelines on what to do if a worker has or develops symptoms on site; ensuring that any beneficiary who is detected as having a fever is directed to a specified sheltered/covered area for follow-up

[78] https://coronavirus.jhu.edu/region/haiti.
[79] http://documents1.worldbank.org/curated/en/136631594937150795/pdf/World-Bank-Group-COVID-19-Crisis-Response- Approach-Paper-Saving-Lives-Scaling-up-Impact-and-Getting-Back-on-Track.pdf

by a local government or health official, and informing identified beneficiaries that they will receive their assigned inputs, regardless of the temperature control results.

ANNEX 10: Maps





Source: Integrated Food Security Phase Classification (IPC), 2021. Map complies with the United Nations map 3855 Rev. 6, 2020.