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Report No: PAD4351

INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT

ON A

PROPOSED GRANT

IN THE AMOUNT OF US\$27.0 MILLION
FROM THE GLOBAL AGRICULTURE AND FOOD SECURITY PROGRAM

AND

IN THE AMOUNT OF SDR35.0 MILLION
(US\$50.0 MILLION EQUIVALENT)
FROM THE INTERNATIONAL DEVELOPMENT ASSOCIATION'S
CRISIS RESPONSE WINDOW EARLY RESPONSE FACILITY

AND

IN THE AMOUNT OF SDR35.0 MILLION
(US\$50.0 MILLION EQUIVALENT)
FROM THE INTERNATIONAL DEVELOPMENT ASSOCIATION'S
CRISIS RESPONSE WINDOW SEVERE CRISIS RESOURCES

TO THE

FOOD AND AGRICULTURE ORGANIZATION
AND
UNITED NATIONS DEVELOPMENT PROGRAMME
AND
WORLD FOOD PROGRAMME

FOR A

YEMEN FOOD SECURITY RESPONSE AND RESILIENCE PROJECT

APRIL 27, 2021

Agriculture and Food Global Practice
Middle East and North Africa Region

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CURRENCY EQUIVALENTS

(Exchange Rate Effective March 31, 2021)

Currency Unit = SDR

SDR0.706 = US\$1

US\$1.416 = SDR 1

FISCAL YEAR

January 1 - December 31

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ABBREVIATIONS AND ACRONYMS

AIDA	Agricultural Investment for Development Analyzer
ARDU	Agriculture and Rural Development Unit
CAHWs	Community Animal Health Workers
CBO	Community-based Organization
CBY	Central Bank of Yemen
CCRT	Catastrophe Containment and Relief Trust
CFW	Cash-for-Work
CGE	Computable General Equilibrium
COVID-19	Coronavirus Disease
CRW ERF	Crisis Response Window Early Response Facility
ECRP	Emergency Crisis Response Project
EO	Earth Observation
ESCP	Environmental and Social Commitment Plan
ESRS	Environmental and Social Review Summary
FAO	Food and Agriculture Organization of the United Nations
FCV	Fragility, Conflict and Violence
FFS	Farmer Field Schools
FIES	Food Insecurity Experience Scale
FMFA	Financial Management Framework Agreement
FSP	Food Security Preparedness Plan
GAFFP	Global Agriculture and Food Security Program
GAM	Global Acute Malnutrition
GDAHQ	General Directorate for Animal Health and Quarantine
GDP	Gross Domestic Product
GEMS	Geo-Enabling Initiative for Monitoring and Supervision
GHI	Global Hunger Index
GIS	Geographical Information Systems
GOY	Government of Yemen
GRM	Grievance Redress Mechanism
HDDS	Household Dietary Diversity Score
IDA	International Development Association
IDPs	Internally Displaced Persons
IFC	International Finance Corporation
IFPRI	International Food Policy Research Institute
IFR	Interim Financial Reports
IMF	International Monetary Fund
INGO	International Non-governmental Organization
IP	Implementing Partner
IPC	Integrated Food Security Phase Classification
IRG	Internationally Recognized Government
M&E	Monitoring and Evaluation
MAI	Ministry of Agriculture and Irrigation
MAM	Moderate Acute Malnutrition

MFB	Minimum Food Basket
MOPHP	Ministry of Public Health and Population
MTR	Mid-Term Review
MUAC	Mid-Upper Arm Circumference
NASS	National Agriculture Sector Strategy
NAIP	National Agriculture Investment Plan
NGO	Non-Governmental Institution
NI	National Institution
OHS	Occupational Health and Safety
PAD	Project Appraisal Document
PDO	Project Development Objective
PLW	Pregnant and Lactating Women
PLWG	Pregnant and Lactating Women and Girls
POA	Plan of Action
PPSD	Project Procurement Strategy for Development
PWP	Public Works Project
RF	Results Framework
SAM	Severe Acute Malnutrition
SBCC	Social Behavior Change Communication
SEP	Stakeholder Engagement Plan
SFD	Social Fund for Development
SMART	Standardized Monitoring and Assessment of Relief and Transitions
SMEPS	Small Micro Enterprise Promotion Service
TPM	Third Party Monitoring
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
UNOCHA	United Nations Office for the Coordination of Humanitarian Affairs
WASH	Water, Sanitation and Hygiene
WDR	World Development Report
WFP	World Food Programme
WHO	World Health Organization
YHRP	Yemen Humanitarian Response Plan

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DATASHEET

BASIC INFORMATION

Country(ies)	Project Name		
Yemen, Republic of	Yemen Food Security Response and Resilience Project		
Project ID	Financing Instrument	Environmental and Social Risk Classification	Process
P176129	Investment Project Financing	Substantial	Urgent Need or Capacity Constraints (FCC)

Financing & Implementation Modalities

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

Expected Approval Date	Expected Closing Date
11-May-2021	30-Jun-2025
Bank/IFC Collaboration	Joint Level
Yes	Historical Project/Activity implemented in sequence with an IFC activity(Loan/Credit/Guarantee/AAA)

Proposed Development Objective(s)

The Project Development Objective is to improve the availability of and access to food and nutritious diets, both in the short and medium term, for targeted households in the Project Area, and to enhance Yemen's capacity to respond to food insecurity.



Components

Component Name	Cost (US\$, millions)
Improving household incomes through CFW for agricultural production infrastructure and building climate resilience	20.00
Increasing production and sale of nutritious crop, livestock and fish products	35.00
Improving the nutritional status of vulnerable rural households	49.30
Capacity building for food security management and climate resilience	6.00
Project management and knowledge management	16.70

Organizations

Borrower:	United Nations Development Programme World Food Programme Food and Agriculture Organization
Implementing Agency:	World Food Programme Food and Agriculture Organization United Nations Development Programme

PROJECT FINANCING DATA (US\$, Millions)

SUMMARY

Total Project Cost	127.00
Total Financing	127.00
of which IBRD/IDA	100.00
Financing Gap	0.00

DETAILS

World Bank Group Financing

International Development Association (IDA)	100.00
IDA Grant	100.00

Non-World Bank Group Financing

Trust Funds	27.00
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Global Agriculture and Food Security Program	27.00
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IDA Resources (in US\$, Millions)

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
Yemen, Republic of	0.00	100.00	0.00	100.00
Crisis Response Window (CRW)	0.00	100.00	0.00	100.00
Total	0.00	100.00	0.00	100.00

Expected Disbursements (in US\$, Millions)

WB Fiscal Year	2021	2022	2023	2024	2025
Annual	5.00	28.00	35.00	26.00	6.00
Cumulative	5.00	33.00	68.00	94.00	100.00

INSTITUTIONAL DATA

Practice Area (Lead)

Agriculture and Food

Contributing Practice Areas

Environment, Natural Resources & the Blue Economy, Health, Nutrition & Population, Transport, Water

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	● High
3. Sector Strategies and Policies	● Substantial
4. Technical Design of Project or Program	● Moderate
5. Institutional Capacity for Implementation and Sustainability	● Moderate



6. Fiduciary	● High
7. Environment and Social	● Substantial
8. Stakeholders	● Substantial
9. Other	● High
10. Overall	● High

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

Have these been approved by Bank management?

Yes No

Is approval for any policy waiver sought from the Board?

Yes No



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

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

FAO: Schedule 2, Section I, Paragraph A.2: Within 30 days of the Effective Date, the Recipient shall establish, and thereafter maintain, throughout the Project implementation period, a Project Coordination Unit (“PCU”).

Sections and Description

ALL IMPLEMENTING AGENCIES: Schedule 2, Section I, Paragraph A.3: The Recipient shall establish and thereafter maintain, throughout Program implementation, a Coordination Committee.

Sections and Description

ALL IMPLEMENTING AGENCIES: Schedule 2, Section I, Paragraph A.5: The Recipient shall: (a) engage Yemen Partners pursuant to a partnership or service contract arrangement agreed between the Recipient and each of the Yemen Partners, under the Recipient's relevant rules and procedures, and satisfactory to the Association; and (b) make part of the proceeds of the Financing allocated under Category (1) of the table set forth in Section IV.A of this



Schedule available to Yemen Partners to implement activities agreed upon under relevant the partnership or service contract arrangement.

Sections and Description

ALL IMPLEMENTING AGENCIES: Schedule 2, Section I, Paragraph B.1(a): The Recipient shall prepare, in accordance with terms of reference acceptable to the Association, and furnish to the Association an operational manual for the Project.

Sections and Description

FAO: Schedule 2, Section I, Paragraph B.2(b): The Recipient shall ensure that access to the data generated by the satellite-based crop and pasture monitoring systems is limited to persons and entities prescribed in the POM.

Sections and Description

FAO: Schedule 2, Section I, Paragraph B.2(a): The Recipient shall ensure that the use of the satellite-based crop and pasture monitoring systems follows the terms of reference for its use outlined in the POM, and is acceptable to the Association.

Sections and Description

ALL IMPLEMENTING AGENCIES: Schedule 2, Section II, Paragraph B.4: In case the Association and the Recipient agree that additional due diligence measures are needed, the Recipient shall ensure that any additional due diligence measures of its Respective Parts of the Project is carried out exclusively in accordance with its Financial Regulations and Rules, and “in conformity with the single audit principle observed by the United Nations system as a whole” .

Sections and Description

ALL IMPLEMENTING AGENCIES: Schedule 2, Section I, Paragraph E.2: The Recipient shall: (a) ensure that Third-Party Monitoring Agent(s) promptly furnish Third-Party Monitoring reports to the Recipient and the Association simultaneously, or (b) after its review, and no later than three (3) business days after its receipt, make available such monitoring report to the Association, as the case may be with the various Recipients.

Sections and Description

ALL IMPLEMENTING AGENCIES: Schedule 2, Section I, Paragraph B.3(a): The Recipient shall, not later than four months after the Effective Date, and thereafter, on November 1, of each year during the implementation of the Project, or such later date as the Association may agree in writing, prepare and furnish to the Association for its approval, the annual work plan and budget containing all proposed activities for inclusion in the Recipient’s Respective Parts of the Project.

Sections and Description

ALL IMPLEMENTING AGENCIES: Schedule 2, Section II, Paragraph B.5: The Recipient shall retain, and cause its implementing partners to retain, until at least one year or pursuant to the standard practice of the Recipient, whichever is longer, after the Association has received the final interim unaudited financial report referred to in the Disbursement and Financial Information Letter referenced in Section IV.A all records (contracts, orders, invoices, bills, receipts and other documents) evidencing all expenditures in respect of which withdrawals of the proceeds of the Financing were made.



Sections and Description

ALL IMPLEMENTING AGENCIES: Schedule 2, Section I, Paragraph E.1: Within 30 days of the Effective Date, the Recipient shall hire and maintain throughout Project implementation, Third-Party Monitoring Agent(s) with qualifications, experience and terms of reference acceptable to the Association, to be financed out of the proceeds of the Financing as set forth in the table under Section IV.A. of Schedule 2 to this Agreement, to carry out Third-Party Monitoring of the Project implementation.

Sections and Description

ALL IMPLEMENTING AGENCIES: Schedule 2, Section II, Paragraph B.3: The Recipient will prepare periodic financial statements in accordance with its Financial Regulations and accounting standards acceptable to the Association. The financial statements will be submitted to the Association in accordance with the provisions of Section II. Financial Reports and Audits of the Disbursement and Financial Information Letter referred to in Section IV.A

Conditions

Type	Financing source	Description
Effectiveness	Trust Funds, IBRD/IDA	ALL IMPLEMENTING AGENCIES: This Agreement shall not become effective until evidence satisfactory to the Bank has been furnished to the Bank that the Recipient has adopted the Project Operations Manual in the form and substance satisfactory to the Bank.
Effectiveness	Trust Funds, IBRD/IDA	UNDP: This Agreement shall not become effective until evidence satisfactory to the Bank has been furnished to the Bank that the Recipient has adopted CfW Transfer Manual, in the form and substance satisfactory to the Bank.



I. STRATEGIC CONTEXT

A. Country Context

1. **Violent conflict, now in its seventh year, has crippled Yemen's economy and created an unprecedented humanitarian crisis.** Oil exports, the main source of government revenue and foreign exchange, came to a virtual halt in 2015 due to repeated sabotage of vital infrastructure and increased insecurity. The resulting wide-scale suspension of basic public services and civil service salary payments, rapid currency depreciation, and shortages of imported goods weakened the non-hydrocarbon sector and left many Yemenis without a regular income. More than 50 percent of Yemenis between the ages of 18 and 24 were unemployed in 2017 (United Nations Development Program 2017). A liquidity crisis hit the country in mid- to late-2018 with the local currency depreciating significantly and food prices rising, making food virtually unaffordable to many households. External assistance financed imports of food and other necessities and helped stabilize the economy in 2019 but was largely depleted by early 2020 and foreign reserves were not replenished. Some respite was provided through IMF financing in 2020.

2. **The macroeconomic policy environment differs spatially due to the bifurcation of administration between areas of control.** Oil prices remain low, eroding the government's hydrocarbon revenue. Non-oil economic activity has suffered significantly from COVID-19 related trade slowdown, desert locust outbreaks and exceptionally heavy rainfalls, which have caused intense flooding, infrastructure damage and human casualties in 2020. The severe revenue shortfall has led to expenditure compression. Since early 2020, salary payments to public sector workers have seen frequent delays. Payables to suppliers (mostly to energy suppliers) have continued building up, disrupting fuel imports and electricity supply. The complete ban on using new banknotes since December 2019¹ has resulted in two exchange rates, complicating trade and financial flows across Yemen. The fiscal policy of the Houthi authorities operates under a cash-constrained budget. The collection of corporate profit and sales taxes and customs revenue, the three largest revenue sources, was affected negatively by COVID-19 related trade slowdown and movement restrictions, and administrative disruption caused by flooding. In 2020, the Houthi authorities disbursed half-month salaries to public sector workers under its controlled areas every other month².

3. **Over 24 million people (or 83 percent of the total estimated population) are food insecure³, including a staggering 16.2 million people in Integrated Food Security Phase Classification (IPC) Phase 3+ requiring emergency assistance. Food insecurity in Yemen is driven by constrained food production, supply and distribution and households' diminishing purchasing power.** An estimated 4.3 million people have fled their homes since the start of the conflict, and 3.3 million remain internally displaced. Hunger, food insecurity and malnutrition are among the most pressing and overwhelming challenges Yemen now faces, at a scale that is not being fully met by national authorities and the international development and humanitarian communities. Low food access has resulted from a combination of a high household dependence on food imports, high food prices and significantly reduced household income. It is estimated that Yemen imported 8 percent less wheat per month between January and May 2020 than during the same period in 2019 due to limited funds, which is an insufficient imported amount of wheat to meet the 2020 consumption requirement.

¹ Notes printed after September 2016 when the Central Bank of Yemen (CBY) headquarters was moved to Aden.

² The Yemen Macro-Poverty Outlook, the 2020 Annual Meetings Edition.

³ IPC Phase 2 and above.



4. **Socioeconomic conditions deteriorated further in 2020, significantly worsening poverty.** Distortions created by the fragmented institutional capacity and the divergent policy decisions between the areas of control have compounded the economic and humanitarian crisis. This dramatic deterioration of conditions in Yemen means that an estimated 80 percent of the population (around 24 million) were living below the poverty line even before the COVID-19 pandemic crisis (World Bank 2019). The likely result based on anecdotal evidence is a contraction of the economy from an already low base in 2020. In addition to monetary poverty, it is estimated that up to 80 percent of households experience overlapping monetary and non-monetary deprivations (World Food Programme 2020).

5. **Multiple indices point towards a significant gender gap, with Yemeni women having a lower standard of living than men, and less access to education, health, productive employment and food security than men** (World Bank 2014). The Gender Inequality Index (GII) measures Yemen's GII value as 0.834⁴ vs. the world's average at 0.439. Yemen *ranks 153 out of 153 countries*, meaning Yemen has the largest gender gap in the world, in the 2020 Global Gender Gap Report⁵ by the World Economic Forum. International Labor Organization (ILO) modeled estimates⁶ suggest that 46 percent of women work in agriculture (versus only 27 percent of men). Yet far fewer women participate in the labor market and in productive employment, with only 6 percent of women participating in the labor force compared to 72 percent of men. One out of four women in the labor market are unemployed (24 percent) compared to 12 percent of men. Vulnerable employment is high for all but especially for women; 68 percent of women fall in this category compared to 44 percent of men. Income inequality is stark: for every dollar a man makes in Yemen, a woman is estimated to make only thirty cents⁷. In 2011, the adult literacy rate was 80 percent for men and 45 percent for women, but among youth aged 15-24, these rates were 96 and 72, respectively^{8 9}. Finally, while men face a higher direct burden of war through fighting and battle deaths, women are disproportionately affected by the indirect and often lasting effects of conflict (World Development Report 2011, Buvinic et al. 2012, Justino 2018) that exacerbate existing gender-based deprivations and development shortfalls.

6. **Economic and social prospects for 2021 and beyond are highly uncertain.** With the continuingly tense political and security situation, socio-economic conditions will remain difficult. Urgent progress to address the current restrictions of access to supplies and fuel imports would improve public service provision and the operational environment for humanitarian operations. Ceasing hostilities and eventual political reconciliation, including the return of unitary macroeconomic policy implementation, are prerequisites for reconstructing the economy and rebuilding the social fabric.

B. Sectoral and Institutional Context

7. **Yemen's agriculture supplies around 15 – 20 percent of its food needs due to limited agricultural land and water resources and poor agricultural practices.** However, agriculture—including fisheries and livestock—is the backbone of Yemeni livelihoods and the most important non-oil sector of the economy, even as its

⁴ The Borgen Project, 2018.

⁵ The Global Gender Gap considers the economic participation, education, health and political empowerment of all genders.

⁶ World Bank Data.

⁷ The Borgen Project.

⁸ World Bank: data.worldbank.org/country/yemen-republic.

⁹ Description of Yemen's education system is summarized in Annex 2.



contribution to gross domestic product (GDP) has decreased during this period of severe economic disruption. Agriculture's share of GDP contracted from 10.3 percent in 2010 to 4.03 percent in 2018¹⁰. Agricultural land is less than three percent of Yemen's land area (FAOSTAT) and supplies around 15 - 20 percent of its needs for food. The principal agricultural systems are in the rainfed highlands characterized by terraced agriculture for coffee, fruits, grains and qat¹¹ and extensive livestock (meat) production. Horticulture and field crops predominate in the plains, using groundwater for irrigation. Groundwater resources are very limited, fossil and non-renewable, and agriculture accounts for up to 90 percent of groundwater use. The current annual renewable freshwater resources in Yemen are estimated at 80 m³ per capita versus an 8,900 m³ per capita global average. Yemen therefore falls well below the absolute scarcity threshold of 500 m³ per capita¹². Up to 85 percent of food consumed is imported, mostly staples, such as wheat, rice, oil, sugar and milk. Yemen has self-sufficiency in some cereals (sorghum, millet, and barley), while 90 percent of wheat is imported. The agricultural sector accounts for a large portion of non-oil domestic exports and supports livelihoods through agricultural and livestock production. Large share of the population depends on agriculture for their livelihoods.

8. Agriculture is very important for job creation and food security, especially for women, yet women have less access to agricultural assets and higher food insecurity. Women have a major role in agricultural production; up to 87 percent of rural women are involved in agriculture sector activities (Food and Agriculture Organization of the United Nations, FAO), yet women rarely have land ownership rights and they commonly relinquish inherited land rights to male family members. It is estimated that only 13 percent of women are agricultural landholders (United Nations Development Programme, UNDP). Women working in agriculture face many constraints, such as limited access to land ownership, finance, markets, livelihood activities, and information, aside from legal and cultural restrictions on economic independence. It is estimated that only 2 percent of women have access to a formal bank account or mobile financial provider compared to 11 percent of men (which is also low). According to UNOCHA, female-headed households are more at risk of food insecurity due to scarce work opportunities for them. Women are generally excluded from economic transactions in the local markets. When food is scarce, women are the first family members to eat less as a coping mechanism, even though they continue to do hard work, including in the fields. Lack of official papers are an obstacle for women, boys and girls when registering for humanitarian assistance distribution. Restrictions in mobility (for security and cultural reasons) are often an obstacle for women and girls to go to humanitarian distribution points. Given the agriculture sector's importance in producing food for consumption and commercialization, and generating incomes, it will continue playing an important role in households' coping strategies and is expected to play a leading role in post-conflict recovery and reconstruction¹³.

9. Vulnerability to climate change and pest outbreaks are exacerbating Yemen's dire food insecurity, creating a crisis within a crisis. Yemen is highly vulnerable to climate change, further threatening food security and intensifying the development of locust swarms. By 2060, mean annual temperature is expected to increase by 1.2°C to 3.3°C, and the rate of warming is projected to be more rapid in interior regions than in coastal areas. Sea level rise will result in increased coastal flooding and possible damages to infrastructure and ecosystems, leading to sea-water intrusion affecting the country's already fragile freshwater balance. Climate change has already triggered the strongest alterations in water temperature in the Indian Ocean in 60 years. Warmer seas also create more extreme rainfall as well as stronger and more frequent cyclones, providing ideal conditions for

¹⁰ https://www.theglobaleconomy.com/Yemen/share_of_agriculture/

¹¹ Qat is a mild stimulant leaf chewed for recreation, and for which up to 40 percent of total water resource use is dedicated

¹² Dire Straits: The Crisis Surrounding Poverty, Conflict, and Water in the Republic of Yemen, World Bank, 2017.

¹³ https://www.theglobaleconomy.com/Yemen/Employment_in_agriculture/



desert locusts to hatch, breed, and disperse widely. Fall armyworm breeding areas are also increasing in Yemen as a result of ecologically favorable conditions, including extensive rains, with several governorates affected.

10. **Despite the agricultural sector's importance, agricultural productivity remains low and the conflict has severely disrupted access to markets, transportation and distribution.** Yemeni farmers operate around 1.18 million farms, with an average land holding of 1.36 ha (FAO). About 75 percent of agricultural production comes from the highlands, home to 60 percent of the population. While productivity has always been low, conflict has worsened production conditions, resulting in a shortage of inputs such as seeds, fertilizer and fuel, damage to agricultural machinery, irrigation systems and storage facilities along with a deterioration of water, sanitation and electricity services, and a breakdown of logistical chains. These disruptions, coupled with the relatively small and fragmented land holdings, have been preventing the sector from making a larger contribution to rural incomes and addressing food trade imbalances. The insufficient availability of inputs and post-harvest losses have been exacerbated by inadequate marketing systems, low human resource capacity, and lack of infrastructure and access to markets.

11. **Acute malnutrition is among the world's highest, and both acute and chronic malnutrition will adversely impact the country's human capital outcomes in the long term.** Prior to the 2015 escalation of conflict, Yemen already had one of the world's highest malnutrition levels. In 2021, over 2.25 million cases¹⁴ of acute malnutrition threaten children under the age of five in Yemen. Of those children, 395,000 are expected to suffer from severe acute malnutrition and could die if without treatment. The projected figures in the IPC nutrition analysis¹⁵ mark a 16 percent increase in acute malnutrition and a 22 percent increase in severe acute malnutrition among children under five compared to last year's estimate. This is the highest number on record in Yemen. An additional concern are the more than one million pregnant and lactating women who are projected to suffer from acute malnutrition during 2021 in Yemen. Acute severe malnutrition¹⁶ has immediate effects, including greater susceptibility to diseases like cholera, wasting and a whole range of other poor physical and mental health outcomes. Malnutrition impacts on children is particularly severe, as it results in long term declines in cognitive development, along with poorer health outcomes in both short and longer terms. This looms as a longer-term societal issue. According to UNICEF, a shocking 46 percent of all children in Yemen are stunted. At this rate, malnutrition will create a lost generation. Undernutrition is particularly prevalent in rural areas, related to lean seasons or food security crises, and in areas remote from food aid. This suggests that enhanced, rural household-focused nutritional awareness, combined with improved local production can improve nutritional outcomes.

12. **Several aggravating factors that emerged in 2020 have been driving a worsening of the food security situation.** Those factors include:

(a) *Widespread floods.* In most of the governorates, the 2020 agriculture season started in March with strong rains, which lasted into August and led to heavy floods across the country. The floods resulted in substantial damage to cultivated lands and infrastructure and affected agricultural activities such as horticulture and livestock. Floods coincided both with harvesting and planting, resulting in damages to the standing crops and delayed planting activities. Destruction of water infrastructure alone (not including impacts on crops and

¹⁴ Cases of malnutrition are counted here as some children will have repeat episodes.

¹⁵ Yemen: High levels of food insecurity persist | IPC Global Platform (ipcinform.org)

¹⁶ Severe acute malnutrition is defined by a very low weight for height (below -3z scores of the median WHO growth standards), by visible severe wasting, or by the presence of nutritional oedema (WHO).



livestock) is estimated at US\$50 million (FAO). The estimated recovery and reconstruction needs for the short and medium term are between US\$763 million and US\$932 million¹⁷.

- (b) *Desert locust invasion.* Yemen is one of the main breeding grounds of desert locust swarms, with swarms developing across the entire year and in multiple locations. The rains created favorable conditions for desert locusts to reproduce, resulting in extensive damage to cultivated crops. Residents and farmers in selected governorates reported a huge number of locusts invading farms, cities and villages, devouring important seasonal crops such as dates and causing heavy losses. The World Bank estimates the damages and losses for the 2020 agricultural season at US\$222 million.
- (c) *Livestock disease incidences and prevalence in 2020.* The above normal and intense rains created conducive environments for disease vectors to multiply and easier disease transmission of livestock diseases, resulting in increased outbreaks. In livestock, suspected outbreaks of Foot and Mouth Disease (FMD), *Peste des petits ruminants* (PPR), sheep and goat pox (SGP) in areas of low/absence of vaccination coverage, Lumpy Skin Disease (LSD) and other disease conditions have devastated livestock population, increasing vulnerability of livestock dependent population to food security shocks.
- (d) *Well below-average cereal harvest in 2020.* The total cereal production in 2020 was estimated at 365,000 tons, almost 25 percent below the five-year average. Rural food crop production is expected to continue declining unless action is taken. With reduced food imports, higher food prices and for most households significantly reduced income earnings, the result will be lower food access.
- (e) *The COVID-19 pandemic continues its spread across Yemen, negatively impacting food supply chains and food trade and contributing to sharp food price increases.* By early March 2021, Yemen had reported 2,436 COVID-19 cases and 660 deaths, although it is likely COVID-19 cases are significantly under-reported. Market functionality and logistics in many areas have been hampered due to curfews and other COVID-19 pandemic prevention measures, greatly affecting farmers' access to markets. Although farmgate prices did not change, poor market access has resulted in high post-harvest losses of horticulture products with only a few farmers finding alternate marketing channels to sell their produce, resulting in lower incomes. Movement restrictions and high input costs could further affect the next planting season. Negative coping strategies observed amongst pastoralists, such as selling herds, could continue without assistance to secure the upcoming planting season and to preserve productive assets in rural areas. In the coming months, localized and temporary increases in COVID-19 control measures are expected in areas where higher numbers of cases are suspected, with further disruptions to trade and access to food and income.
- (f) *Food price increases have continued through a combination of rapid currency deterioration, COVID-19 pandemic impacts on the agri-food sector and lower food imports.* Food represents a large share of poor households' consumption expenditures, estimated between 60 to 70 percent. The disruptions to supply chains of locally produced foods are resulting in postharvest losses, and informal food flows across land borders are expected to continue at reduced levels relative to the pre-conflict period. Trade across land borders will likely remain difficult as continuing insecurity is now compounded by border closures due to COVID-19. As a result, the cost of the minimum food basket (MFB) increased by more than 20 percent during February 2020 – January 2021¹⁸. For instance, wheat flour price gradually increased throughout 2020 and in November 2020

¹⁷ Yemen Dynamic Needs Assessment (DNA): Updated 2020 (World Bank).

¹⁸ MENA Crisis Tracker, January 20, 2021 (World Bank).



was 27 percent higher than at the same time previous year¹⁹. At the same time, incomes in the informal sector have dropped dramatically, remittances are also down sharply, and from December 2019 to June 2020, the local currency (Yemeni riyal) lost an average of 19 percent of its value against the US dollar²⁰.

13. The ability of Yemen's physical food markets to operate varies across the country. Yemen's food market system is fragmented and market ability to operate depends on the security situation. In several areas, markets are operating reasonably well and are reasonably well stocked, however, in many food insecure areas poorly operating markets and dis-functional logistics are among the reasons contributing to the food insecurity. The Yemen Joint Market Monitoring Initiative²¹ regularly monitors market operations in 56 districts in 16 governorates. They report that price inflation is the most commonly reported constraint faced by the assessed vendors when obtaining fuel, Water, Sanitation and Hygiene (WASH) items, food items, and water trucking services. Among the vendors interviewed, results showed 86.2 percent saw price increases as the key constraint. Other constraints listed by respondents were insecurity (17.7 percent), demand shortages due to the population's low purchasing power (14.9 percent), transportation difficulties (12.8 percent), with supply shortages only mentioned by 2.4 percent of respondents. Yet farmers report worsening access to markets due to the COVID-19 restrictions. Horticulture farmers, mainly women, are selling a highly perishable commodity and rely on this income to sustain their families. Poor market access has both kept the farmgate prices steady and also resulted in high post-harvest losses of horticulture products with only a few farmers finding alternate marketing channels to sell their produce, resulting in lower incomes. Another significant factor that negatively impacts overall private sector operations is fuel scarcity and its trading in the black market at double the price, which have disrupted the production process, service delivery, decreased working hours, and increased costs of production, transportation, storage and marketing²².

14. Climate change is already worsening the existing challenges and negatively impacting all four dimensions of food security: availability, access, stability, and utilization of food. Food availability is compromised by projected yield declines due to temperature and precipitation patterns change. Climate change also compromises food access by affecting consumers' purchasing power through price increases as a result of climate change. Climate change affects food utilization primarily by reducing food safety through a higher incidence of food-borne diseases and the spread of novel pests and diseases. Regarding food stability, the risks to food and nutrition security are exacerbated by the expected increase in the frequency and intensity of climate-related events. Furthermore, according to the World Bank's Groundswell report²³, climate change will scale up internal climate migration. The poorest people in rural areas will be forced to move due to slow-onset climate change impacts, including decreasing crop productivity, shortage and deterioration of water's quantity and quality, and rising sea levels. Therefore, actions geared towards building improved and climate-smart agri-food systems will contribute to increased food security, climate change adaptation and mitigation.

15. Food security situation forecasts for the first half of 2021 predict that food insecurity across the country will intensify due to the continued, combined effects of the aggravating factors described in paragraph 12 above, a warning uniformly sounded across the UN agencies working in Yemen, including the FAO, UNICEF and

¹⁹ FEWS NET Yemen Food Security Outlook Update, December 2020.

²⁰ IPC ACUTE FOOD INSECURITY ANALYSIS JULY – DECEMBER 2020; Issued July 2020.

²¹ Yemen Joint Market Monitoring Initiative, January 2021 Situation Overview.

²² Yemen Socio-Economic Update, October 2020.

²³ Groundswell: Preparing for Internal Climate Migration, The World Bank, 2018.



the World Food Programme (WFP)²⁴. This includes large areas of the country previously in IPC Phase 2 (Stressed) moving to IPC Phase 3 (Crisis), with the share of the population in IPC Phases 3 and 4 significantly increasing by June 2021. The number of people likely to experience high levels of acute food insecurity (IPC Phase 3 or above) is estimated to be nearly 16.2 million (54 percent of the total population). Food insecurity is more severe both in areas with active fighting and bordering areas with limited access. It is particularly affecting Internally Displaced Persons (IDPs) and marginalized groups such as the landless laborers and the *Mohamasheen*²⁵. Food insecurity is also severe in areas where people survive on low and irregular sources of income and low access to public services. The population in Catastrophe (IPC Phase 5) are found in the five districts of Al Jawf, Hajjah and Amran. The governorates with the highest proportion of IPC Phase 4 districts (>75%) are located in Al Dhale'e, Al Jawf, Hajjah, Marib and Rayma Governorates. Each of the governorates of Al Hudaydah, Dhamar, Hajjah, Ibb, Sana'a City and Taizz have more than one million people in IPC Phase 3 (Crisis) or above. The upcoming "lean" season, between March and June 2021 is expected to aggravate this situation.

C. Relevance to Higher Level Objectives

16. **The project is aligned with World Bank Group (WBG) strategic objectives at the global, regional and country level.** The project will build the resilience of Yemeni households to food security crises and improve household food security and nutrition, aligning itself with the WBG twin goals of eliminating extreme poverty by 2030 and boosting shared prosperity, measured as the income of the bottom 40 percent in any given country, in a sustainable manner. The project would also support the WBG enlarged strategy for the Middle East and North Africa (MENA), contributing to three of the strategy's pillars: (1) renewing the social contract, (2) resilience to shocks, and (3) recovery and reconstruction. The project activities would support human capital development by: (1) addressing food insecurity and malnutrition at the household level, (2) fostering employment solutions through a cash-for-work mechanism, and (3) supporting agricultural production and women's entrepreneurship, thereby increasing resilience to food security crises.

17. **The project is well aligned with the World Bank Group's Yemen Country Engagement Note (CEN) for FY20–21 (Report No. 136046-RY), which aims at sustaining basic service delivery while progressively supporting economic and human capital development.** The project's objectives support the overarching goals of laying the foundations for peace, building social cohesion, and targeting the structural dimensions of fragility. The project would support the CEN's second objective of extending support to livelihoods, human capital, and basic economic recovery by enhancing food availability and accessibility for rural households and improving their resilience to food crises. Reflecting the emphasis in the CEN on full coordination with stakeholders and partners on the ground, the project would collaborate closely with national institutions such as the Social Fund for Development (SFD) and Public Works Project (PWP)²⁶, Small Micro Enterprise Promotion Service (SMEPS) and others, to ensure both project implementation and knowledge transfer. Developing a food security preparedness plan and the associated capacity building will help achieve the CEN objective of "continued support for basic service delivery and institutional preservation."

18. **The project is also consistent with the Yemen Remaining Engaged in Conflict (RECA) Eligibility Note, which was presented to the Board of the World Bank on December 17, 2020,** as it focuses on preserving

²⁴ 3.2 www.unicef.org/yemen/press-releases/yemen-sees-return-alarming-levels-food-insecurity, July 22, 2020

²⁵ Mohamasheen or "the marginalized ones" is a minority of African descent who suffer from caste-based discrimination and have long been characterized by deep-seated poverty and exclusion.

²⁶ Neither SFD nor PWP are financed from the central budget.



institutions and human capital. The project aims at improving household food security by increasing food availability and accessibility and building the resilience of Yemen's households to food security crisis, contributing to the RECA objective of preserving human capital and basic economic recovery. Developing the food security preparedness plan and the associated capacity building will help achieve the RECA objective of continued support for basic service delivery and institutional preservation, and the RECA focus on preserving and building national institutions. While the World Bank will continue to rely on its unique partnership with UN agencies as recipients of IDA grants in Yemen's exceptional circumstances, it will also reinforce its focus on capacity building of local partners, with a view to gradually increasing their role in the full project implementation cycle. As mentioned above, the project aims to collaborate with a range of Yemeni national institutions.

19. **The project contributes to the World Bank's overall strategic response to human capital preservation by complementing activities under other IDA-funded operations in Yemen.** The World Bank aims to support a set of immediate, short and medium-term measures across its multi-sectoral portfolio that includes ongoing operations in social protection, health, education and agriculture. The current portfolio includes a number of complementary projects and activities contributing to the preservation and development of the various components of human capital in Yemen – education, health, and others. The 5th additional financing to ECRP (P172662) and the recently approved Social Protection Enhancement and COVID-19 Response Project (P173582) focus on providing cash transfers, temporary employment and increased access to basic services and economic opportunities to vulnerable populations affected by COVID-19 and the ongoing conflict. The 4th additional financing to the Emergency Health and Nutrition Project (EHNP; P175532) supports the delivery of an integrated package of supply-side nutrition and health services through facility-based outreach and community-based service delivery models, in close collaboration with public health institutions. The recently approved Restoring Education and Learning Project (P175036) will support a package of education services to maintain access to basic education and improving conditions for learning (including school feeding), while strengthening education sector capacity. The project also complements two ongoing projects responding to the COVID-19 pandemic (COVID-19 Health Response Project; P173862) and to the locust invasion (Emergency Desert Locust Response Project; P174170). Both ongoing and planned Advisory Services and Analytics (ASA) tasks are supporting the project with measurement and analytics around poverty, human development, strengthening of national institutions, access to services and digitization of payments. This project will focus on restoring agricultural production and building the resilience of households and of the country to food security crises. Other humanitarian and development actors significantly contribute to humanitarian and resilience programs in Yemen complementing the Bank-financed interventions. These programs are implemented by non-state actors, such as the UN agencies and NGOs and financed by the European Union, Kingdom of Saudi Arabia, Kuwait, Japan, the German Development Bank, and the United States of America.

20. **The project is also well aligned with the Government's Yemen Strategic Vision 2025 that describes the promising role of the agriculture sector in the economy.** The Government's vision is to increase agricultural productivity, enabling substantial contributions to overall national economic development, job creation, and food security. Additionally, the project is aligned with the objectives of the Yemen Plan of Action (POA) 2018–2020²⁷, particularly *Pillar one* (Emergency support to the most vulnerable rural and peri-urban households) and *Pillar two*

²⁷ The Yemen Plan of Action 2018 – 2020 is a strategic planning tool that helps in designing and planning interventions along the emergency, short-term and longer-term development continuum in Yemen. It was developed by the GOY in collaboration with FAO. It builds on the key elements of National Agriculture Sector Strategy (NASS) and National Agriculture Investment Plan (NAIP), which continue to remain relevant. Although the documents expired in 2013, they account for both an immediate humanitarian response, and strengthening and building resilience for the agriculture sector going forward.



(Support to the sustainable restoration and diversification of agricultural livelihoods and agri-food systems), and with the Yemen Humanitarian Response Plan (YHRP)²⁸. The YHRP identifies food insecurity as the main challenge requiring immediate action and highlights the critical roles of agriculture and safety nets in improving food security and livelihoods. The project contributes to these objectives by supporting income generation and promoting domestic production and commercialization of agri-food products to improve the food security of households and by promoting climate-smart practices that add to their resilience.

21. **The project is also aligned with the WBG COVID-19 Crisis Response Approach Paper and MENA-wide platform to mitigate the socioeconomic impacts of the COVID-19 crisis, and the WBG Gender Strategy.** The project is part of the Country Program Adjustment for Responding to COVID-19, specifically under the *Protecting the Poor and Vulnerable Pillar*. Please see Annex 1 for a full description of the Country Program Adjustment for Responding to COVID-19. The gender approach under the project contributes, directly and indirectly, to three main pillars of the WBG Gender Strategy (FY16-2023) including, enhancing human development outcomes, improving economic opportunities, and removing barriers to asset ownership through a focus on income support, productive employment and access to agriculture extension and supply chains.

II. PROJECT DESCRIPTION

22. **The project aims to serve as a scalable platform that offers a combination of complementary short-term and medium-term activities to strengthen food security in Yemen, as well as flexibility for adjustment to the evolving food security situation going forward.** Learning from the response to the famine in 2017, the project encompasses complementary activities to address the three core aspects of food security, including improving household incomes (improved food access), restoring and expanding agricultural production (improved food availability), and enhancing nutrition at the household level (improved nutrition). Through the set of project activities, at least US\$70 million would reach beneficiaries in the short term (specifically, cash-for-work, agricultural input kits, productive assets for backyard production, as well as the distribution of specialized foods). Short-term results would include improved nutritional status of targeted beneficiaries and securing the next planting seasons in 2021. Most of the project activities are scalable (such as providing access to productive infrastructure through cash-for-work under Component 1, providing access to agricultural inputs and value chain development under Component 2, nutrition improvement-related activities under Component 3) and can be expanded going forward. The analytical work included in Component 4, which will focus on in-depth assessment of the results achieved through the various project activities, will contribute to identifying the most effective measures. Furthermore, the project aims to work through several implementing agencies – FAO, UNDP, and WFP - which allows for both tailoring and scaling-up interventions based on the evolution of the food security situation in Yemen. While the project is expected to achieve positive outcomes in reducing food insecurity in the project area, additional funding and interventions would be required going forward, to scale up the response to more beneficiaries.

23. **The project focuses on building the resilience of Yemeni households to food security crises and improving household food security and nutrition by increasing food availability, access and utilization in the project areas.** The project includes five components, including: (1) Improving household incomes through Cash-for-Work (CFW) for agricultural production infrastructure and building climate resilience; (2) Increasing production and sale of nutritious crop, livestock and fish products; (3) Improving the nutritional status of vulnerable rural

²⁸ The Yemen Humanitarian Response Plan (YHRP) June – December 2020 is the coordination mechanism for the humanitarian aid.



households; (4) Capacity building for food security management; and (5) Project management and knowledge management.

24. **The project components will be closely coordinated in the project areas to achieve the project outcomes.** Ensuring access to productive infrastructure (water and access routes) under Component 1 supports agricultural activities under Components 2.1 and 3.1, and the CFW modality helps ensure that the CFW beneficiaries obtain immediate income, including to buy food for their families. Sub-component 2.2 supports restoring agricultural production by supporting value chains to sell the produced surpluses, likely on the domestic markets. High-value agricultural value chains (such as coffee, spices and horticulture) would also be supported, helping beneficiaries reach export markets and increase incomes. The nutritious diet improvement activities will target the more vulnerable households (e.g., female-headed and/or with young children) with productive assets and training that supports backyard production of nutritious foods. Finally, Component 4 will focus on building longer-term resilience to future food security crises, including developing a food security preparedness plan (including rapid response), establishing an Earth Observation (EO) tool for crop monitoring and early warning system for monitoring climate-change-induced hazards to agricultural production, and building the capacity of extension services to better support agricultural producers. The project will aim to ensure that agricultural production-related activities are climate resilient, supported by providing extension advice on climate resilience and good agricultural practices.

25. **This project builds on the successes and lessons learned from the soon-to-close GAFSP-funded operation - Smallholder Agricultural Productivity Restoration and Enhancement Project (SAPREP; P162659).** FAO has implemented SAPREP in partnership with SFD, achieving very good results in: (1) strengthening community water infrastructure and their operation; (2) improving animal husbandry, livestock production and animal health services; and (3) improving livelihood and nutrition and supporting selected value chains, including those involving women producers. About 59,600 conflict-affected households received startup packages to resume crop and livestock production. Rehabilitating community water infrastructure improved irrigation water supply on 6,000 ha and improved climate resilience of the terrace agricultural system, spate irrigation in the lowlands and integrated watershed management in communities. The infrastructure improvement works, implemented through the CFW mechanism, generated temporary jobs and additional income to about 7,000 households and helped mitigate additional COVID-19 pandemic-related hardships. The project supported 6,700 dairy farmers and honey producers with production inputs and supported horticulture value chain by establishing seedling centers, post-harvest collection centers and promoting small home-based agro-processing for women. Lessons learned from SAPREP, especially related to building household resilience, capacity of local institutions, and women's engagement, are reflected in the Lessons Learned Section below.

26. **Capacity building, training and support activities will be a core focus of the project.** All project activities will be supported by technical assistance and capacity building activities, provided directly by the project staff or sub-contractors. Agro-technical and climate smart agriculture advice, management of farmer associations, entrepreneurship skills, maximizing nutrition knowledge and skills will all be part of project activities. Actions to build beneficiary capacity are included where feasible, through handover (as appropriate) of the relevant assets to farmers' organizations, marketing groups, water users' associations, and others. The project will use training to build user capacity to manage and maintain restored assets (e.g., farming equipment and tools, seed storage, etc.). Community water committees, local leaders and government counterparts will take on responsibility for maintaining and repairing water infrastructure during the project and post-project period, setting fees for these services, and will receive training on Operations and Maintenance (O&M) during project implementation. Trained



veterinarians will take on care for livestock in their communities. Community health workers and mothers' groups will continue to promote awareness and best practices for nutritional, diverse family diets.

27. **Capacity building and knowledge transfer with national Institutions (NIs) will be supported under the project.** SFD, PWP and SMEPS are three of the NIs engaged in the project and they will work alongside the FAO, UNDP and WFP, to obtain technical knowledge related to the project activities, and to ensure their improved capacity in the future. Each component has built-in activities to strengthen the capacity of the NIs, including the non-governmental organizations working with the WFP under Sub-components 2.2 and 2.3. Other NIs could join the project potentially, for instance the National Irrigation Project (NIP), based on the needs and types of activities.

28. **Women's participation and capacity building are among the strong features of the activities of the project, which aims to address gaps in women's access to information, training, productive assets and employment opportunities.** Each component of the project envisages creating opportunities for women. The project proposes the following measures to contribute to closing the gender gap: provide employment and income generation opportunities for women in the form of CFW (Component 1), engaging in agricultural production and marketing (Component 2), micro and small business development (Component 3) and capacity building to become an extension services agent. An extensive capacity building and training program will support these activities and ensure a higher probability of success. It is expected that female extension agents will become part of the regular workforce of the existing agriculture extension service, and that this will elevate the status of women in the community. It is also expected that through empowering women with increased knowledge and understanding of sustainable agricultural systems, management and leadership skills, and promoting their economic independence as entrepreneurs, gender norms are likely to evolve. Further gender and social analysis using appropriate diagnostic tools to determine root causes of exclusion and disempowerment will be conducted so that nuanced and locally relevant messaging has greater impact. Further policy reforms, advocacy, capacity building, and adoption of best practices may also be warranted, as applicable. Demand-driven approaches in most of the interventions will also ensure strong sense of ownership among female participants (as beneficiaries or staff/extension workers) and serve as motivation for them to seek ways to sustain their efforts, including income and profit generation from their agricultural activities.

29. **Stakeholder consultation process.** The project will scale up the activities proposed in the GAFSP financing request prepared by the FAO and the Government of Yemen and approved by the Board of GAFSP, for funding of US\$20 million²⁹. The GAFSP application was prepared through a highly consultative process, involving communities, marginalized groups, government agencies, farmers, farmer groups' members, local NGOs, different private sector actors and others. Under SAPREP implementation the project teams and public sector counterparts gained deeper understanding of the needs of local government officials, private sector business-people, farmer groups, including marginalized groups such as women, youth, landless farmers and farm workers, the elderly and disabled, and other excluded groups. Feedback from beneficiaries of these target groups who participated in SAPREP was reviewed and results achieved among these groups were analyzed for ways to make improvements. These insights provided significant contributions to designing inclusive and effective responses to sustainably addressing agriculture sector challenges when preparing the new GASFP application. Female staff held interviews and focus groups with women and youth, helping participants feel at ease to discuss challenges and potential solutions to be addressed under this new project. An extensive awareness raising program will be implemented in the project area to build on this successful engagement with stakeholders, in particular in the districts that were not captured in the initial consultation process. This will ensure that the communities are aware of the project

²⁹ The activities indicated in the application to GAFSP were also similar to those implemented under the SAPREP.



activities and benefit from the various activities. Going forward, the project will ensure that long-term planning around rural livelihoods is anchored at the local level, building trust with local government actors and taking into consideration local knowledge about factors affecting implementation at local level.

30. **Citizen engagement.** The project will integrate citizen engagement and has included specific beneficiary-focused indicators at the PDO and intermediate results levels. A Stakeholder Engagement Plan (SEP) has been developed. In addition, the project will conduct regular surveys to ensure that the project reaches the intended target beneficiaries. Including, the third party monitoring agencies will carry out six-month surveys to track the satisfaction of beneficiaries with access and quality of the services provided by the project, as well action plans to address the survey findings.

31. **Project readiness for implementation.** The project will scale up previous similar activities implemented by the implementing agencies under other Bank-financed projects, or other programs of the implementing partners. Under SAPREP (P162659), FAO implemented similar agricultural production (Component 2) and nutrition (Component 3) activities, and UNDP is supporting similar CFW activities for infrastructure (water access, small rural roads, and land improvements) under the Social Protection Enhancement and COVID-19 Response Project (P173582). The project will also support WFP's core activities of importing and distributing specialized nutritional foods for malnourished children and pregnant and lactating women and providing the associated training, and the women's entrepreneurship support program, which is an ongoing successful program implemented by the WFP in Yemen.

A. Project Development Objective

PDO Statement

32. The Project Development Objective (PDO) is to improve the availability of and access to food and nutritious diets, both in the short and medium term, for targeted households in the Project Area, and to enhance Yemen's capacity to respond to food insecurity.

PDO Level Indicators

33. **Progress toward the achievement of the PDO will be measured by the following outcome indicators:**

Outcome 1: Access to and availability of food and nutritious diets at household level improved

- Percentage of households (HH) with improved Food Insecurity Experience Scale (FIES), of which female-headed households.
- Percentage of women in beneficiary households with minimum dietary diversity.
- Percentage of children (6-23 months) consuming minimum acceptable diet.
- Increase in the volume of agri-food products commercialized by beneficiaries, of which by female beneficiaries.

Outcome 2: Country capacity to respond to food insecurity strengthened

- Preparedness to respond to food security crises improved, through the adoption of the food security preparedness plan and the use of the EO monitoring tool.



34. **The activities that the project would finance are expected to yield results at different times, including in the short term.** Based on the Theory of Change (Figure 1), the following results would be measured at the component level:

- (1) **Short term results:** number of temporary jobs created; number of farmers who have received packages for restoring agricultural production; number of severely vulnerable households who have received inputs for backyard production; and number of children under 5 and targeted women who have received supplementary feeding and health screening.
- (2) **Short to medium term (more than one agriculture cycle):** increased production and sales of agricultural products and food; improved food security; and improved dietary diversity in women and children consumption.
- (3) **Medium term (project life):** access/availability of food improved; household dietary practices improved; and country preparedness to food crises improved.

B. Project Components

35. **Component 1: Improving household incomes through CFW for agricultural production infrastructure and building climate resilience (US\$20.0 million, including US\$5.0 million from GAFSP and US\$15.0 million from IDA).** UNDP will implement this component through the Social Fund for Development (SFD) and the Public Works Project (PWP). The SFD will take the lead in implementing the CFW program, which will provide employment opportunities directly to beneficiary laborers from the communities in the project area. The PWP will implement small-scale infrastructure-related works through selected locally sourced contractors which are also expected to create employment opportunities for the communities. Both organizations have extensive experience implementing their respective responsibilities under a number of other interventions, including under several Bank-financed projects. It is expected that 85 percent of the component financing will be allocated for CFW activities, with the remaining 15 percent channeled through the PWP. Component 1 will be implemented in close collaboration with the FAO to ensure that they are closely coordinated with the productive investments made under Component 2. Component 1 would ensure immediate access to food for an estimated 18,800 food-insecure households (26,500 individual beneficiaries) by creating temporary employment opportunities through a Cash-for-Work program, focusing on restoring damaged public and collective productive assets, such as water infrastructure, irrigation networks, rehabilitation of roads and farming lands (including terraced farming), including those affected by the 2020 floods. The project will target youth (18 – 32 years of age) through the community outreach programs and encourage them to participate in the CFW program. The component will also seek to support employment generation activities targeting women. The component will finance beneficiary compensation, estimated an average of US\$500 per household per six-month period, and the operating costs of SFD and PWP. The detailed criteria for beneficiary selection will be included in the Project Operations Manual (POM) to be adopted by effectiveness, to ensure that the beneficiaries of this component are not engaged in parallel Bank-financed projects³⁰. The project will support technical assistance, capacity building, and payment of operating costs of SFD and PWP associated with administering the CFW program and ancillary activities in support of the CFW program.

36. **Component 1 activities would directly contribute to climate change adaptation and mitigate greenhouse gas emissions.** The component will provide climate adaptation benefits by promoting livelihood

³⁰ SFD is the main implementing agency for CFW components and sub-components under Bank-financed projects.



interventions for food insecure populations through resilience-building measures (*Sub-projects*). Climate-resilient irrigation and water conservation and management practices will restore degraded lands (including terracing) and affected water infrastructure for subsequent productive, climate-smart technology use in agricultural production and allow beneficiaries to earn much needed income from their repair and maintenance through cash-for-work. An estimated 15,700 farmers will have improved access to water infrastructure, irrigation networks, rehabilitated lands, and rehabilitated rural roads. These actions also contribute to climate change mitigation and adaptation by increasing carbon sequestration and improving water management.

37. **Component 2: Increasing production and sale of nutritious crop, livestock and fish products (US\$35.0 million, including US\$10.0 million from GAFSP and US\$25.0 million from IDA).** This component will be implemented by FAO. The component will support smallholder farmers and producers to invest in productive assets and help improve their capacity to better commercialize their products and enter new markets. Specifically, it will support: (1) restoring climate-smart local food production to increase household access to food and food availability in local markets, and (2) improving farmers' access to markets for staple and high value cash crops (such as horticultural crops and coffee), by strengthening value chains' vertical and horizontal linkages, to increase incomes for beneficiary households. Component 2 will be implemented in collaboration with IFC in developing selected high value agricultural value chains, building value chains between the project-supported farmers/agricultural producers and investment clients, with the assistance of IFC's Advisory services³¹. This component is therefore expected to restore climate-smart agricultural production while also stimulating the local economy and promoting the production of nutrient-dense foods (e.g., horticulture, pulses, meat (chicken and livestock), dairy and fish). This component will finance two types of support packages. Detailed criteria for beneficiary selection and implementation arrangements will be included in the POM.

38. **Sub-component 2.1: Restoring climate-smart agricultural production (US\$15.0 million, including US\$ 5.0 million from GAFSP and US\$10.0 million from IDA).** The Input Package for agricultural producers will promote climate-smart agricultural production focusing on smallholders' re-engagement in horticulture, crop and livestock farming, beekeeping and fish production. Producers would receive support to restart or expand production, including input starter packages for crops, animal feed, improved forage seeds, equipment and inputs to start fish farming, beekeeping kits, farm equipment such as fodder choppers and small dairy equipment, energy efficient post-harvest handling and storage facilities. The Input Packages will be supported by complementary climate-smart practices supporting diversified production and climate resilience—for instance, by introducing improved varieties and plantings and ways to preserve and manage grasslands. The Sub-component will also provide extension support to producers, including training and advisory services through Farmer Field Schools (FFS) on good agricultural practices, enhanced animal husbandry and feeding practices and climate-smart technologies. SFD, which has extensive prior experience in implementing the types of activities supported under this component, will work alongside FAO to restore and enhance access to some agriculture inputs. It would also strengthen access to supporting services to ensure maximum benefits from those assets, including the extension services to be supported under Component 4, veterinary services (including vaccinations for animals) through Community Animal Health Workers (CAHWS) and the General Directorate for Animal Health and Quarantine (GDAHQ), and technical support services.

39. **Sub-component 2.2: Promoting value addition and sale of nutritious food products (US\$20.0 million, including US\$5.0 million from GAFSP and US\$15.0 million from IDA).** The second package of interventions (Value Addition Package) will provide in-kind grants (*Asset Transfer*) to support enterprising producers, processors and

³¹ One such opportunity for a black sesame value chain has already been identified.



traders to scale up, add value to their products, improve product quality and aggregation, consolidate production, and access local and regional markets with their products. The sub-component will work with the value chain participants to structure the value chain, providing both training and advisory support in technical aspects (aggregation, development of linkages with farmers, product quality and others) and business skills capacity building, and provide beneficiaries with key assets (equipment, machinery and working capital), enabling them to increase the quality and commercialization of food products. In areas with high numbers of Internally Displaced Persons (IDPs), the project will build capacities of farmers in good agricultural practices, value chain development and maintenance of local infrastructure, to improve mutual trust, understanding and collaboration between displaced and host populations. SFD, which has extensive prior experience in implementing the types of activities supported under this sub-component, will work alongside FAO to increase the farm-gate value and nutritional content of some agricultural products through provision of improved technologies and practices for key horticulture crops. The equipment and machinery provided under the sub-component will be climate-smart and more environmentally friendly than conventional technologies. Most of the equipment and machinery is expected to be procured, imported and distributed to the value chain/value addition beneficiaries by FAO. Some of the value chain activities may also cover the beneficiaries who received earlier support under the SAPREP and ECRP.

40. **Sub-component 2.2 will support key value chains mostly focused on the local market, including beans and cereals, vegetables, dairy, livestock and fish value chains.** To increase production, improve product quality, extend shelf-life, reduce food loss, and improve energy efficiency, the component will complement the Input Packages by providing in-kind grants for value chain development, post-harvest enhancement and value addition activities. The size of in-kind grants will depend on the type of beneficiary financed – a group or individual, as well as on the nature of the activity. Larger-scale investments, such as seedling centers, post-harvest centers, hydroponics, dairy processing facilities, etc., will be implemented through groups of beneficiaries. For group beneficiaries, the upper value of the in-kind grants will not exceed a maximum of US\$70,000 per group. The only exception to this maximum size limit may be groups engaged in milk collection and dairy processing where construction of infrastructure is necessary. Given the high start-up costs, the maximum value of such in-kind grants will not exceed a maximum of US\$120,000 per group. Individual beneficiaries who will receive support for activities such as beekeeping, poultry production, horticulture production and processing, food preservation, agro-logistics services and other income-generating value-addition activities, the grant will not exceed US\$2,000 per individual beneficiary. All in-kind grants financed by the project will be supported by a business idea description, description of the market, value chain arrangements and financial viability. The length of the business idea description will be commensurate with the size of the in-kind grant. Detailed description of the in-kind grants is provided in Annex 3.

41. The sub-component will also support investments and technical assistance in selected high-value, high-growth value chains (such as coffee, fruits and nuts, and poultry and eggs³²), some of them in collaboration with IFC and aiming to generate private sector investments. This would generate higher employment and household incomes, improve access to food, and allow for higher diversification of household diets. To ensure that the products are delivered to the market, and to create additional jobs, selected small-scale agro-logistics service providers may also be supported. The component will prioritize the adoption of climate-smart crop and livestock practices to reduce greenhouse gas emissions and enhance resilience to climate change. SMEPS will be working alongside FAO and IFC to ensure knowledge transfer on value chain development and support to build SMEPS's capacity to engage in similar activities in the future. To further review and strengthen opportunities for

³² Based on the results of application of the Agricultural Investment for Development Analyzer (AIDA) model by the International Food Policy Research Institute (IFPRI).



development of value chains, the sub-component will also finance studies in two areas: (1) A fisheries and aquaculture needs assessment and a fisheries and aquaculture stock assessment; and (2) agro-logistics constraints and solutions for selected value chains. The sub-component will also support limited small-scale laboratory equipment for selected universities to support the value chain development activities, as well as the payment of operating costs of SFD and SMEPS and limited capacity building activities (if required) associated with carrying out activities under Component 2.

42. **Component 3: Improving the nutritional status of vulnerable rural households (US\$49.3 million, including US\$7.5 million from GAFSP and US\$41.8 million from IDA).** Sub-component 3.1 will be implemented by FAO and Sub-components 3.2 and 3.3 will be implemented by WFP. This component would aims at improving the nutritional security of very vulnerable (Sub-components 3.1 and 3.3) and moderately vulnerable (Sub-component 3.2) households through a variety of instruments, including: (1) targeted nutrition-sensitive agriculture activities and facilitating uptake by poor households of appropriate dietary and nutrition practices, in particular improving nutrient intakes of pregnant mothers and children under two, (2) promoting women's entrepreneurship activities and improving the diets of the female-led households, and (3) improving nutrition in vulnerable households with malnourished women and children. Component 3 beneficiaries may also include the Cash-for-Nutrition beneficiaries under the ECRP, to ensure that they receive support allowing them to start their own production of food or improve nutritious diets on a more sustainable basis.

43. **Sub-component 3.1: Promoting kitchen gardens and backyard production for improved diets and climate resilience (US\$10.0 million, including US\$7.5 million from GAFSP and US\$2.5 million from IDA).** FAO will implement this sub-component which will target beneficiary households that have received malnutrition treatment and prevention services referred to under Sub-component 3.3, former beneficiaries of the Cash-for-Nutrition programs under the ECRP, households with pregnant mothers and children under two, and other eligible households with a similar vulnerability level. The sub-component will provide inputs (vegetable seeds, chicken, etc.) for households to establish kitchen gardens and backyard production of nutritious food items (vegetables, eggs, and meat) using climate-smart agricultural practices. It is estimated that the sub-component will reach 20,000 beneficiary households. Beneficiaries would also receive two types of training. To improve backyard production, they will receive training on good and climate-smart agricultural production practices. The sub-component will prioritize the adoption of climate-smart crop and livestock practices to reduce greenhouse gas emissions and enhance resilience to climate change. To maximize the nutritional value of available food, training sessions will be offered to beneficiaries of this sub-component on how to maximize the nutritional value of foods when preparing family meals. Also, the project will use different communication channels to spread nutrition messages to trigger behavioral change in target populations. Since women are the main family caretakers, mostly women beneficiaries are expected to partake in these activities, however, the training will be open to both women and men.

44. **Sub-component 3.2: Promoting women's rural entrepreneurship for improved nutrition and food security (US\$14.3 million, all IDA).** The sub-component will be implemented by WFP and will focus on promoting women's entrepreneurship to generate higher income and improve nutritious diets and food security at the household level. WFP's resilience and livelihoods interventions will mainly target moderately food-insecure people to prevent them from slipping into further food insecurity. WFP will work with national NGO partners and provide Food Assistance for Training to food-insecure women, especially targeting those who are heading their households in rural communities. The training will develop their skills, aimed at restoring or establishing their livelihoods, and starting their own businesses. The support in most cases will range from six to nine months (at



the monthly payment of US\$105), giving participants access to various trainings, such as skill development, business development and management, digital skills, entrepreneurship, improved nutrition and life-skills (e.g., health practices) while they are supported by a monthly allowance. Once trainings are completed and a business plan submitted and approved, the women would receive a start-up grant (*F4T Start-Up Grants*) to start diversified income generating activities (both agricultural and non-agricultural). The average grant amount per individual will be US\$630 and not exceed a maximum of US\$800. Increasing the productive capacity and livelihoods potential of rural women, especially in agriculture and food production, will help sustain their food and nutritional security when the assistance period ends. Similar to the Sub-component 3.1, for agricultural activities, the Sub-component 3.2 will prioritize the adoption of climate-smart crop and livestock practices to reduce greenhouse gas emissions and enhance resilience to climate change. WFP's comprehensive approach also includes training and support related to gender-based violence, preventing infectious disease spread, and child-care, nutrition and health practices. Participants will be encouraged to work together in joint business ventures with an estimated 3 participants per business, although the number may vary based on participant preferences and conditions for joint ventures in the targeted areas. It is expected that around 7,500 women will participate in the training, establishing an estimated 2,500 businesses.

45. **Sub-component 3.3: Providing nutrition assistance to treat and prevent malnutrition (US\$25.0 million, all IDA) for pregnant and lactating women and girls (PLWG) and children under 5 years old.** This sub-component will be implemented by WFP and constitutes an integrated malnutrition prevention and treatment response. WFP will provide blanket supplementary feeding with specialized nutrition products to children aged 6–23 months and pregnant and lactating women and girls (PLWG) to prevent and treat acute and chronic malnutrition in the project area districts prioritized for integrated famine response. Likewise, WFP will provide targeted supplementary feeding to malnourished children aged 6–59 months and PLWG to treat moderate and acute malnutrition across the country. Beneficiaries of targeted supplementary feeding will be screened both at community and in local health centers, through community health volunteers and screening campaigns organized by the Ministry of Public Health and Population (MOPHP), using mid-upper arm circumference (MUAC) and weight-for-height measurements. This is accompanied by social behavior change communication (SBCC), designed to reduce barriers to adequate infant and young children feeding practices and healthy eating and hygiene habits. The SBCC campaign will target PLWG, health workers and caregivers, and also other decision makers and influencers within the community such as parents-in-law, husbands and local leaders. Messaging will focus on ensuring that responsibility for the care of children is shared within the household and not only limited to women. During the project period, around 214,000 beneficiaries are expected to be reached through the Treatment Program, including 164,000 acutely malnourished children under the age of five and 50,000 acutely malnourished pregnant and lactating women and girls, as well as around 304,000 beneficiaries through the Prevention Program, including 164,000 children under the age of two and 140,000 pregnant and lactating women and girls.

46. **Component 4: Capacity building for food security management and climate resilience (US\$6.0 million, all IDA).** FAO will lead implementation of this component in cooperation with other partner organizations as described below. This component includes a set of activities that are expected to significantly strengthen the capacity of both the private (households) and public sectors for food security crisis planning and response:

- (a) **Developing an evidence-based and climate-informed Food Security Preparedness Plan (FSPP).** The FSPP development will be co-led by the World Bank (financed under a separate budget) and the FAO, and will be carried out in a highly participatory manner, consulting with the main line ministries and institutions involved in the agricultural sector, multilateral and bilateral organizations, the private sector; and civil



society including international and local NGOs. The FSPP will be prepared within six months of project effectiveness and it will be reviewed by the World Bank's Technical Expert Group on Food Security. As required, the project will also include capacity building of local government partners. The FSPP implementation will be monitored on a regular basis throughout the project period.

- (b) Establishing a satellite-based Earth Observation (EO) crop and pasture monitoring and early warning system for detecting climate-induced hazards.** This entails designing and deploying a satellite remote sensing and geographical information system tool to monitor agricultural production activities and enable inform decision-making for food import planning. This EO tool would support monitoring agricultural production, providing information to the Government of Yemen (GOY) for decision-making regarding food imports planning. The data generated by the EO tool will also feed into the FSPP implementation. The TORs for the EO tool establishment will be subject to the World Bank's no objection, including to ensure that the EO tool would be used for the intended (civilian) purpose only. The EO tool will initially be housed by FAO and arrangements to transfer to the appropriate agency will be identified during the project Mid-Term Review (MTR).
- (c) Strengthening agriculture extension services** by financing capacity building of the existing extension services, including current extension services staff, CAHWs and other extension service agents working in the communities. An electronic agricultural extension services platform and call-in advisory service will also be developed. A significant number of women, enrolled on the basis of selection criteria which will be reflected in the POM, will be trained as extension workers, agricultural technicians, and CAHWs under this activity and recruited to be part of Farmer Field Schools (FFS).
- (d) Piloting alternative agricultural production technologies** will introduce alternative, climate-smart land- and water-efficient agricultural production technologies for producing nutritious crops (soilless technologies, such as hydroponics and aquaponics) by financing technology pilots and demonstrations in areas where previously, production would not have been possible, due to limited land resources.

47. **Component 5: Project management and knowledge management (US\$16.7 million, including US\$3.2 million from GAFSP and US\$13.5 million from IDA).** This component would cover the costs associated with project management for all three implementing agencies (FAO, UNDP and WFP), recognizing the particularly challenging operating conditions in Yemen. Covered implementation costs include financial management, procurement, environmental and social aspects, communication and stakeholder engagement, and overall monitoring and evaluation (M&E). Additionally, M&E is expected to be strengthened by using the Geo-Enabling initiative for Monitoring and Supervision (GEMS – please see the paragraph below) and by carrying out an additional impact assessment (in collaboration with IFPRI), to assess the suitability and impact of project interventions. This component would also finance a third-party monitoring (TPM) mechanism and establish and maintain a grievance redress mechanism (GRM). Each implementing agency will have a separate GRM mechanism.

48. **For real-time data collection and analysis, the project will implement the Geo-Enabling method for Monitoring and Supervision (GEMS).** The GEMS method enables project teams to use open-source tools for in-field collection of structured digital data that automatically feeds into a centralized M&E system and Management Information System (MIS). Under the project, the implementing agencies will develop the relevant tools for the supervision of their components, which will feed information into the M&E system of the agencies. The integrated data would include any kind of indicators, based on tailor-made forms; photos, audio, videos; time and date



stamps; and GPS coordinates that allow for automated geo-mapping of the information. The tools will allow the project to enhance the transparency and accuracy of project planning as well as M&E and third-party monitoring throughout the project cycle. GEMS will also allow for establishing a digital platform for remote supervision, real-time environmental and social monitoring, and portfolio mapping for coordination across project components as well as with other operations in the region. The GEMS will be applied where possible and appropriate, in full transparency with relevant authorities.

49. **Integration of COVID-19 response.** The project will use its resources (such as field consultants) to integrate COVID-19 awareness and preventive measures in the training events and awareness campaigns planned for beneficiaries. Awareness raising and training events will follow precautionary measures described in workshop/training protocols, as well as enforce and maintain adequate distancing during control, distribution, training, payment, and other project activities. These will also be held in locations and during times that are convenient for women. The project will work with local communities, female and male consultants, and beneficiaries to reach households with awareness and hygiene materials (such as masks, hand sanitizers and other relevant consumables) that will be developed to resonate with women and men's different roles and behaviors at home and in society. The decision on which hygiene materials to procure will be made in coordination with the Bank-financed COVID-19 health emergency project in Yemen.

Project Financing Instrument

50. **The project will be financed by a grant in the amount of US\$127.0 million using an Investment Project Financing (IPF) instrument.** The project would be financed from two sources: an IDA grant of US\$100 million from the Crisis Response Window (CRW), including US\$50 million from the Early Response Facility (ERF), and US\$50 million from the Severe Crisis Resources, and a US\$27 million grant from the Global Agriculture and Food Security Program (GAFSP), inclusive of US\$20 million financed from the regular GAFSP program and US\$7 million provided under the GAFSP COVID-19 response program. The project would have an overall duration of four years, however, given the associated terms and conditions, the various sources of financing will have different implementation schedules. The COVID-19 financing of GAFSP would be implemented during an 18-month period (therefore, these are expected to be the first withdrawals from the trust funds), the CRW financing over four years, and the GAFSP regular financing in the amount of US\$20 million would be implemented over four years. The cost breakdown by component and expected disbursement by source of financing is indicated in Tables 1 and 2, respectively.

51. **The project is designed to disburse most of funds during the first two years of implementation.** About 65 percent of the total financing (see Table 3 below) is planned to be disbursed over the first two years for short-term activities to yield fast results on the ground. These activities include CFW activities under Component 1, the provision of input kits under Sub-component 2.1, the provision of agricultural inputs for backyard and kitchen garden production under Sub-component 3.1 Cash-for-Training activities reaching women beneficiaries, and provision of specialized foods under Sub-component 3.3. It is estimated that the project will reach at least 650,000 beneficiary households during the first two years.



Table 1: Project Costs by Component and Source of Financing

Project Components	Project Cost (US\$ million equiv.)*	IDA Financing (US\$ million equiv.)		Share of Financing	GAFSP Financing		Share of Financing
		CRW ERF (US\$ million equiv.)	CRW SCR (US\$ million equiv.)		Regular Program (US\$ million equiv.)	COVID-19 Response (US\$ million equiv.)	
1. Improving household incomes through CFW for agricultural production infrastructure	20.0	7.5	7.5	75.0%	2.0	3.0	25.0%
2. Increasing production and sale of nutritious crop, livestock and fish products	35.0	12.2	12.5	70.0%	8.2	2.1	30.0%
3. Improving the nutritional status of vulnerable rural households	49.3	21.4	20.4	70.0%	6.5	1.0	30.0%
4. Capacity building for food security management	6.0	3.0	3.0	100.0%	0.0	0.0	0.0%
5. Project management and knowledge management	11.0	3.9	3.9	70.9%	2.5	0.7	29.1%
UN agency Fees	5.7	1.9	2.8	82.5%	0.8	0.2	17.5%
Total Project Cost	127.0	50.0	50.0	78.8%	20.0	7.0	21.2%

* Please note that amounts may not fully add up due to rounding errors.



Table 2: Project Cost by the Sub-component and Implementing Agencies

Project Components	Project Cost (US\$ million equiv.)*	FAO	UNDP	WFP
1. Improving household incomes through CFW for agricultural production infrastructure	20.0		20.0	
2. Increasing production and sale of nutritious crop, livestock and fish product. Sub-component:	35.0			
- 2.1: Restoring climate-smart agricultural production	15.0	15.0		
- 2.2: Promoting value addition and sale of nutritious food products	20.0	20.0		
3. Improving the nutritional status of vulnerable rural households. Sub-component:	49.3			
- 3.1: Promoting kitchen gardens and backyard production for improved diets	10.0	10.0		
- 3.2: Promoting women rural entrepreneurship for improved nutrition	14.3			14.3
- 3.3: Providing nutrition assistance to treat and prevent malnutrition	25.0			25.0
4. Capacity building for food security management	6.0	6.0		
5. Project Management and Knowledge Management	11.0	7.1	2.7	1.2
Sub-total project cost	121.3	58.1	22.7	40.5
UN agency Fees	5.7	2.9	1.1	1.7
Total Project Cost	127.0	61.0	23.8	42.2

* Please note that amounts may not fully add up due to rounding errors.

Table 3: Tentative Disbursement Schedule by Source of Funds

Project Components	Year 1	Year 2	Year 3	Year 4	Total
IDA CRW ERF	17.0	17.0	9.0	7.0	50.0
IDA CRW Severe Crisis Resources	16.0	18.0	10.0	6.0	50.0
GAFSP Regular	4.0	4.0	4.0	8.0	20.0
GAFSP COVID-19 Response	3.0	4.0			7.0
Total	40.0	43.0	23.0	21.0	127.0

C. Project Beneficiaries

52. **The primary beneficiaries of the project are rural households most affected by food insecurity in the targeted governorates.** With its various activities, the project is expected to reach around 1 million beneficiaries. The primary beneficiaries of the project will be: (a) under the CFW program of Component 1, moderately food-insecure rural households at risk of falling further into food insecurity; (b) under the agricultural production and commercialization activities of Component 2 and alternative agricultural production activities under Component



4, smallholder farmers; (c) under the women entrepreneurship activities of Sub-component 3.2, women beneficiaries from moderately food insecure households at risk of falling further into food insecurity; and (d) under Sub-components 3.1 and 3.3, severely food insecure households with PLWG and children under five. Additionally, the government and local governments will be beneficiaries of the capacity building activities under Component 4. The detailed criteria for selection of beneficiaries will be provided in the POM. The outreach to beneficiaries will be coordinated with other donor and Bank-financed interventions, to ensure minimum overlap (except the cases mentioned in the project description section above).

53. **Selection of project area.** The project is expected to operate in the areas with the highest food insecurity, poor nutrition outcomes and livelihoods constraints, and in need of emergency assistance. District-level project sites will be selected within the targeted governorates (based of the IPC classification) based on the food insecurity and malnutrition levels. Districts with the highest level of food insecurity and malnutrition will be prioritized, and the presence of aggravating factors (floods, impact of COVID19-related restrictions and desert locusts) will be included in selection criteria. Other criteria will include agriculture's contribution to livelihoods (proportion of rural population), household poverty levels, and whether the household has benefitted from other relevant programs in agriculture and livelihood support/food security³³. The project will be implemented in areas which are accessible and where the project recovery and development interventions can be implemented. The approach is to keep the project design flexible, allowing for adjustments as needed. This may include changes in the project targeted districts if original districts become inaccessible and adjustments to the implementation schedule due to access and security constraints and other reasons. The initial set of 77 target districts in which the project will operate has been selected across ten governorates: Abyan, Al Bayda, Al Dhale'e, Al Hudaydah, Al Jawf, Amran, Dhamar, Hajjah, Lahj and Taizz. The district selection may be revised with an appropriate justification or is a district no longer meets the criteria.

D. Results Chain

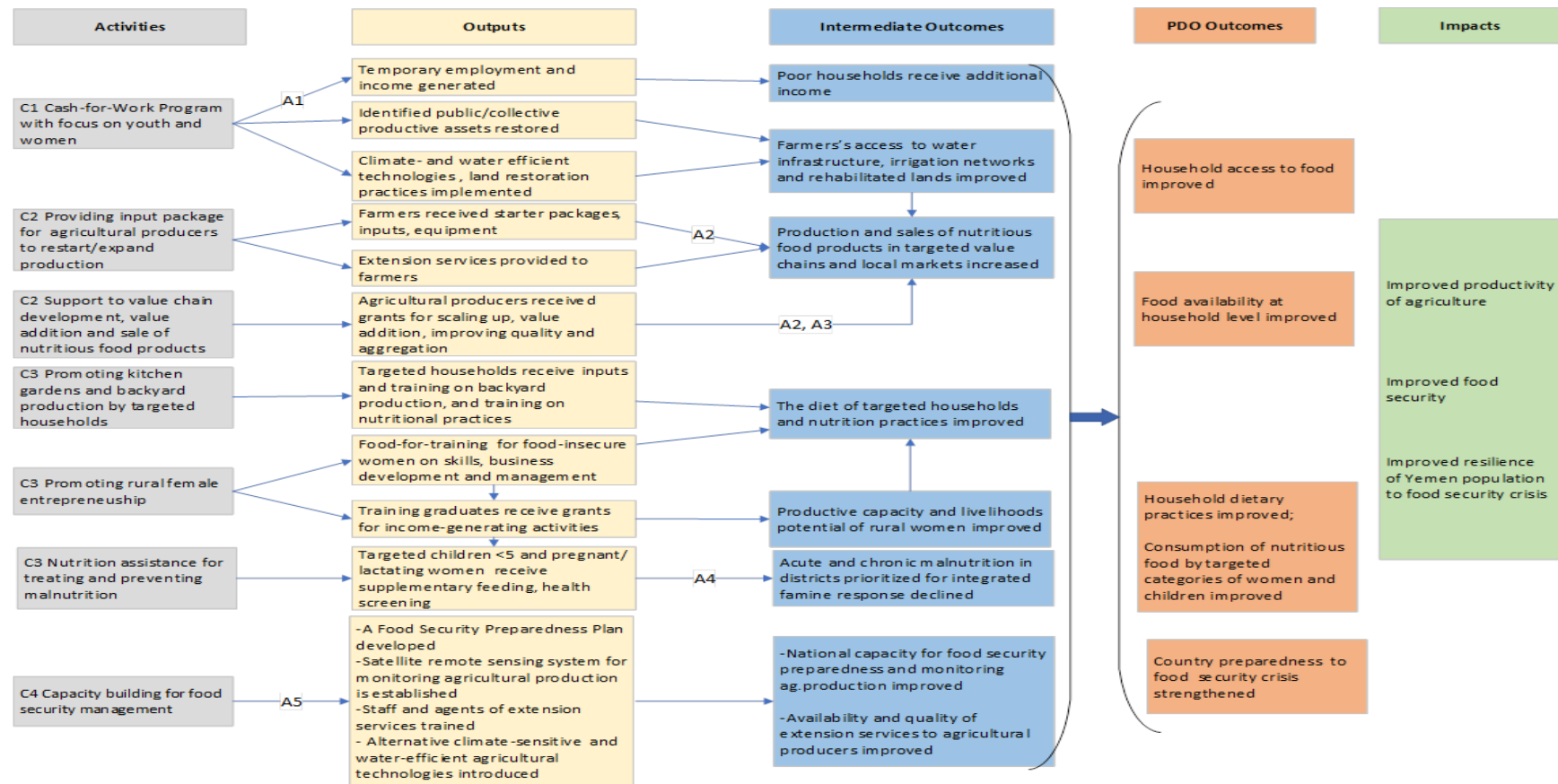
54. **The Theory of Change (TOC).** Figure 1 outlines the TOC, which is anchored in the PDO.

55. **The TOC is subject to the following critical assumptions:**

- A.1: Targeted beneficiaries, especially youth and women, actively participate in the CFW activities.
- A.2: Value chain participants have electricity and fuel to ensure ability to produce, process, add value and transport products to the market.
- A.3: Deteriorating security and pandemic conditions do not prevent value chain participants from reaching markets to ensure efficient functioning of the value chains.
- A.4: The beneficiaries of the malnutrition treatment and prevention activities utilize the food in the intended manner.
- A.5: Donors and Government entities support and closely collaborate in preparation and implementation of the Food Security Preparedness Plan.

³³ The project will leverage SFD's knowledge of the various programs and their beneficiaries.

Figure 1: The Proposed Project's Theory of Change



Critical assumptions
A1: Targeted beneficiaries, especially youth and women, actively participate in the CFW activities.
A2: Value chain participants have electricity and fuel for production, processing and transporting products to the market.
A3: Security and pandemic constraints do not prevent value chain participants from reaching markets to ensure efficient functioning of the value chains.
A4: The beneficiaries of the malnutrition treatment and prevention activities utilize the food in the intended manner.
A5: Donors and Government entities support and closely collaborate in preparation and implementation of the Food Security Preparedness Plan.



E. Rationale for Bank Involvement and Role of Partners

56. **The added value of the World Bank Group’s engagement in crisis response stems from its ability to deliver a continuum of response mechanisms, from immediate response, to long-term recovery and resilience.**

The WBG is well placed to support the response to the worsening food security crisis in Yemen; it can draw on extensive crisis response experience³⁴, including in Yemen, deep multisectoral expertise, and strong client relationships and global partnerships. These have enabled the Bank to gain detailed lessons from supporting interventions that preserve livelihoods in the near term, while also promoting recovery over the medium term, and supporting resilience over the longer term. Alongside its multisectoral technical expertise, tested procedures, and financial resources, the Bank has developed substantive experience in responding to emergencies in settings marked by fragility or active conflict, or in contexts where the client lacks the implementation capacity to coordinate a response.

57. **The Bank’s effective collaboration with partners is critical for mobilizing a successful and technically sound crisis response on the ground.**

Success in these instances depends on an effective presence on the ground, a clear understanding of partners’ respective roles and responsibilities, the skillful navigation of organizational differences, and open communication (as discussed next in the section on lessons learned). The technical scope of this project was developed through close consultation with FAO (which has in-depth technical knowledge in agricultural production and nutrition), WFP, UNDP, SFD (which brings extensive expertise in rural livelihoods, nutrition and safety net programs in Yemen), PWP (which has extensive experience in small-scale infrastructure support), and SMEPS’s knowledge in private sector and value chain development. The project would also lead to a more extensive partnership across the World Bank Group, particularly with IFC, which has supported the agribusiness sector in Yemen and is scoping out additional investments, including investments IFC can support or facilitate by providing advisory services. The project will collaborate and coordinate with other donors supporting food security in Yemen, such as the European Union (EU) and others.

F. Lessons Learned and Reflected in the Project Design

58. **SAPREP activities have strengthened social relations in communities and helped beneficiaries reinstate and improve their sources of income.**

Beneficiaries perceived SAPREP interventions as relevant to their most important needs and accessible by all different groups in targeted communities, and reported sizeable increase in yields, area planted and farm profits. The project surveys of beneficiaries reported high satisfaction with the project support and quality of services received. Ninety-three percent (93 percent) of surveyed beneficiaries perceive SAPREP activities as relevant to their most important needs. They also report about equal access to the services by all different groups in targeted communities and that SAPREP activities strengthened social relations in communities. Beneficiaries reported that inputs provided by the project helped beneficiaries to reinstate and improve their source of income. In particular, poultry distribution and livestock restocking activities resulted in 40 percent and 27 percent increases in incomes respectively. Beneficiaries of the seed distribution program reported 53 percent and 61 increases in income for forage and cereal seeds respectively.

59. **Empowering women by increasing knowledge and employment opportunities brings immediate rewards as it improves farming business.**

Participation in the SAPREP’s Farmer Field Schools (FFS) allowed women

³⁴ The Bank has broad experience in responding to a wide range of crises, including past locust outbreaks, the global food and avian influenza crises of 2007–08, the Ebola response of 2014–16, and many others.



to improve farming practices and to gain knowledge on good agricultural practices, leading to increases in yields, healthier food for their families and more significant income opportunities. Women that were selected and trained as Community Animal Health Workers (CAHWs) under SAPREP were officially recognized as Animal Health Workers which led them to both gain respect and to deal with the broader set of challenges found within their communities. Women's empowerment under the project yielded benefits beyond ensuring employment and income generation for the women. The local community became more accepting of reducing gender-related barriers that usually prevent women from working, promoted women's work, and allowed for mobility (women provided advice in their villages and neighboring villages). The project will explore options to collaborate with the local research centers, for instance the Gender and Development Research Center of Sana'a University.

60. Strengthening community capacity and civic engagement drives commitment and autonomy. WFP's 2020 Review of Food Assistance for Assets found that livelihood activities strengthen community capacity by involving communities, including women and youth, in implementing activities throughout the project, starting from the selection of assets to asset delivery. Being empowered to decide which assets to prioritize, and receiving training to operate and maintain these assets, produced higher dividends on autonomous maintenance after project-end. This civic engagement and commitment to grassroots organization, community feedback mechanisms often resulted in follow-up self-help processes that were undertaken autonomously and voluntarily by the community. Nonetheless, given the current context in Yemen, some communities found it challenging to meet their commitments for maintenance after project ended due to the absence of public funds. Further investment in training of local partners, civic society and communities is required to ensure sustainability of results. This includes more systematic knowledge sharing and evidence building and increased focus on creating functional community asset management committees.

61. Transfer of skills and complementary activities foster diversified livelihoods. WFP's prior experience in Yemen shows that semi-skilled and skilled workers from the community worked jointly and benefitted from the supervision of engineers and technical staff, which expanded their expertise and experience. Furthermore, all workers received basic training to deliver the outputs that were assigned when activities were implemented. Many participants reported that the skills gained during the project increased their employability and their chances of finding higher-paid jobs. To maximize and more systematically reap these benefits, livelihood activities would be accompanied by targeted trainings on both sustainable agricultural practices and capital-intensive inputs and projects, such as machinery for irrigation and cultivation or installing solar-powered water pumps. Complementary activities further strengthen the impact on diversified and strengthened livelihoods. Such activities include agricultural and non-agricultural trainings and livelihoods grants that support access to inputs and equipment for both on and off-farm activities.

62. Drawing on lessons from past crisis responses, the project integrates interventions to provide immediate responses and sustain recovery, while also strengthening resilience in the near, medium and longer term. The project supports a combination of immediate monitoring and control and livelihood protection interventions for those affected by the crisis, so that negative medium-term impacts are not aggravated by negative short-term coping solutions. From the start, the project would initiate efforts to ensure that in the medium term, producers recover the means to earn income and access food from agricultural and pastoral asset bases that have been depleted or destroyed by the locust crisis and recent floods. Finally, project interventions build, strengthen, and implement early warning systems and preparedness measures to ensure resilience over the longer term. Relevant lessons here are also provided by the Bank's response in Yemen in 2017 (Box 1).



Box 1: World Bank's Integrated Response to Famine in Yemen in 2017

The famine of 2017 in Yemen was triggered by a liquidity crisis at the end of 2016, which aggravated an already very difficult situation for many poor households. It was estimated that 8 million people were at risk of famine at the time, and 50,000 children died of starvation during 2017. The World Bank mounted an integrated multi-sectoral response, funding four emergency and crisis response projects in Yemen through grants totaling US\$983 million to finance a complementary set of activities ensuring immediate cash transfers to the affected households, access to key health services, improving access to clean water and better sanitation, and strengthening the domestic agricultural production. This included a US\$200 million project that financed cash transfers for the poorest and most vulnerable Yemenis to enable them to purchase food and a US\$300 million project that provided income opportunities and livelihood support. A US\$233 million health project helped restore access to primary health care services and nutrition, while a US\$250 million cholera response project was funding treatment and measures to prevent future outbreaks, such as vaccines and the rehabilitation of water and sewage systems. Agricultural production improvements were supported through a US\$36 million project funded by the Global Agriculture and Food Security Program (GAFSP).

Lessons learned

- The magnitude and complexity of the crisis called for a combination of closely coordinated interventions in several sectors, to achieve a balance between response on the demand side (affordability of food) and the supply side (availability of food on local markets). Not one operation could address all aspects of the crisis and close coordination between the Bank's interventions and with other development partners was critical to success on the ground.
- An integrated set of responses was important for those affected by the crisis, so that negative medium-term impacts would not be aggravated by negative short-term coping solutions. The immediate responses (cash transfers and livelihood protection interventions) provided a coping strategy in the short term while developing the medium-term response of restoring the agricultural production.
- A balance between interventions addressing emergency needs and building resilience to future similar crises is necessary to move away from continuous emergency response to better preparedness for future food security crises, and eventually resilience to future shocks at the household and national level.
- Community involvement in the design and implementation of interventions at the local level is essential to ensure inclusion of the most vulnerable and for the sustainability of the outcomes of those interventions.

63. **Successful project implementation in challenging operational environments hinges on carefully considered partnerships and implementation support arrangements, but local capacity building needs to be built into the project design.** Where a country lacks the capacity to implement and coordinate a crisis response, the key is to work effectively with partners whose presence on the ground can mobilize a response. Success factors in these cases include: a mutual understanding of respective roles and responsibilities; accepting the need to navigate organizational differences; open lines of communication throughout implementation; and adopting best practices in terms of Third-Party Monitoring (TPM). Yet it is also important to build lasting skills on the ground through capacity building, as the experience of the South Sudan Emergency Food and Nutrition Security Project shows. Any outside technical assistance needs to be balanced by a strong program of capacity building (technical and managerial) for the client. Close supervision is also needed to more effectively track progress, communicate and establish teamwork.

64. **The rapid delivery of an effective short-term response can help frame the longer-term institutional and policy agenda.** Lessons from dealing with earlier crises (such as the food crisis of 2007–08) have helped subsequent efforts to mitigate the short-term negative effects of price increases by demonstrating the effectiveness of a “twin track” approach. This “twin track” approach uses interventions such as social protection,



policy advice, and investments in local food production (spurring a near-term supply response) to complement distributive responses, such as providing physical food aid. This approach opens the way for transitioning to more adaptive crisis response interventions, such as efforts to boost agricultural productivity and resilience over the longer term. Another example is the use of timely, targeted cash transfers such as those provided under the Yemen ECRP, which have succeeded in addressing short-term consumption poverty and food insecurity in Yemen while also showing how expanded social protection systems can support better access to education, healthcare, and nutrition. This 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.

65. **A recent IFPRI evaluation³⁵ of an ongoing nutrition-sensitive cash transfer program in Yemen demonstrated that combining increased income with nutrition education and empowering activities for women does result in significant improvements in dietary diversity and child nutritional status³⁶.** Similarly, the evaluation of the Bank-financed Yemen Rainfed Agriculture and Livestock Program (RALP; P089259) showed that involving women in productive livestock activities significantly enhanced their role in household decision-making, fostered economic independence and increased household milk consumption.

III. IMPLEMENTATION ARRANGEMENTS

A. Institutional and Implementation Arrangements

66. **The project will be implemented by three UN agencies, FAO, UNDP and WFP,** ensuring project activities reach throughout both the South and the North of Yemen. Annex 2 presents the details of project implementation arrangements and the role of partner agencies. Each agency will implement part of the project based on their mandate and relevant experience:

- (i) **FAO** is the specialized UN agency responsible for and well positioned to respond to emergencies in agriculture and food security, including crop and food supply monitoring and needs assessments, evaluations of agricultural relief requirements, and mobilizing assistance and resources to restore agricultural activity. The FAO has prior experience in supporting the implementation of Bank-financed projects on the ground in Yemen (since 2017 it has led the implementation of SAPREP toward satisfactory achievement of results and more recently it became the implementing agency for the Desert Locust Response Project; P174170). SAPREP, implemented in collaboration with SFD, supported a set of similar activities, including CFW, support to agricultural production by providing input kits and ensuring access to associated services (such as animal health services). The project’s implementation performance rating is *Satisfactory*. Given their prior experience in implementing SAPREP, FAO is fully aware of the Bank’s fiduciary and environmental and social requirements. FAO has put in place enhanced M&E mechanisms to supervise local implementation partners and has also been using TPM.
- (ii) **UNDP** is the UN’s development program and it is committed to supporting the peacebuilding initiative in Yemen, political stability and enhanced local governance. UNDP has built a successful partnership

³⁵ “Cash for Nutrition,” ECRP, World Bank (2019).

³⁶ Kurdi, S., Y. Ghorpade and H. Ibrahim. *The Cash for Nutrition Intervention in Yemen: Impact Evaluation Study*. MENA RP Working Paper 19. Washington, D.C.: International Food Policy Research Institute (IFPRI). <http://www.ifpri.org/publication/cash-nutrition-intervention-yemen-impact-evaluation-study>



- with the World Bank in implementing the CFW activities of the ECRP. UNDP is partnering with the SFD and PWP and their community networks to deliver services. Given their prior experience in implementing the ECRP, the UNDP is fully aware of the Bank's fiduciary and environmental and social requirements. UNDP established an M&E system to ensure proper project management, assuring stakeholders and providing accountability and is also using a TPM mechanism to monitor project implementation. UNDP communicates with the World Bank monthly on project implementation and to address emerging challenges. UNDP had a good collaboration with FAO on water resource management, aimed at enhancing access to water in agriculture and improving the effective use and management of scarce water resources in Yemen.
- (iii) **WFP** is the food-assistance program of the United Nations and is the world's largest humanitarian organization, the largest one focused on emergency food crisis response, and the largest provider of school meals. In Yemen, in addition to food and nutrition interventions, such as school feeding programs, WFP is also engaged in livelihoods development activities through a range of instruments, including Food-for-Assets and Food-for-Training in close cooperation with FAO. WFP's vulnerability, mapping and assessment (VAM) expertise conducts joint nation-wide food security and livelihood assessments which inform the IPC for Yemen, as well as regular food security and price monitoring and analysis. WFP is an implementing agency under the World Bank-financed Restoring Education and Learning Project (P175036), engaged in school feeding activities, and it has had exposure to the Bank's fiduciary and environmental and social requirements.

67. **The Country Representation Offices of the three UN agencies will be responsible for the overall implementation of their respective activities and coordinating all relevant activities at the sub-national level, supported by the regional office staff who will monitor the activities in different governorates.** The FAO will be the lead agency for the implementation of the project and will be a recipient of both IDA and GAFSP financing. UNDP will also receive both IDA and GAFSP financing. WFP will receive IDA financing. Each UN agency will be responsible for the technical implementation of the relevant components and sub-components (as indicated in the PAD), as well as all fiduciary, environmental, and social aspects, monitoring and reporting. The UN agencies will help ensure financial and technical accountability of the implementing partner organizations (such as SFD, SMEPS and PWP) and ensure appropriate training and capacity building of the staff of the implementing partner organizations. The FAO will establish a Project Coordination Unit (PCU) based in Sana'a within 30 days of project effectiveness, and technical staff deployed in its Aden sub-office and other decentralized hubs to ensure day-to-day project management, including all fiduciary, environmental, and social aspects, and monitoring and reporting. UNDP and WFP will assign dedicated staff to support project implementation and ensure timely and relevant contributions to the PCU work. This proposed structure would build on the experience with previous grants implemented by FAO in the country. Moreover, the UN agency teams in Sana'a are backstopped by dedicated teams of technical experts at regional and Headquarters level, as the case may be for the different UN agencies, in line with the Level 3 fast-track procedures established due to the emergency situation in Yemen.

68. **Coordination.** The three selected organizations are currently working in Yemen and exchanging information as part of their participation in partner meetings. The three UN agencies will set up a formal project Coordination Committee for increased efficiency and efficacy, including to coordinate activities with and among the Implementing Partners. This committee will hold meetings on a regular basis (monthly) to best coordinate their activities, evaluate progress, address bottlenecks and consolidate annual work plans. The UN agencies will prepare and maintain a jointly agreed co-ordination activity matrix with delineated activities, responsibilities by implementing agency and timeline, to ensure smooth co-ordination in project implementation. The frequency of



meetings, attendance, communication tools and other details will be described in the POM. Collecting and reporting on indicators (including methodology, tools, devices, etc.) to inform the results framework and progress on implementation will be discussed and agreed among implementing partners with the support of the Bank. A mechanism will also be established to brief the authorities at local, governorate and national on a regular basis on the project results and progress with implementation.

69. **Local partners with prior extensive experience in implementing similar projects will have key implementation roles.** The PWP and SFD would play a key role as the local implementing partners for Component 1, SFD and SMEPS would support implementation of small-scale value chain activities, provision of technologies and practices for some horticulture crops and restoration of agriculture inputs under Component 2, alongside FAO. The SFD and PWP are the key local partners in implementing the ongoing ECRP, SAPREP and Desert Locust Response Project (DLRP; P174170), and they would lead the implementation of Component 1. SMEPS would contribute to the value chain development under Component 2. Selecting national institutions for these roles would contribute to building national capacity for community-based interventions. For activities that would be implemented by SFD, SMEPS and PWP, UNDP and FAO would provide technical guidance and backstopping as required. Under the CFW program of Component 1, SFD will be in charge of working with beneficiaries on the CFW program, while the PWP will implement the activities related to restoration of small-scale agricultural infrastructure in the cases it requires involvement of professional contractors, to ensure communities have access to good quality assets. SMEPS will ensure technical assistance to the value chain development activities. Additional personnel will be recruited to cover any skills or human capacity gaps identified during the project preparation. All staff are required to have satisfactory expertise, experience, and qualifications. All three national institutions have capacity and experience spanning over 20 years in undertaking participatory and community-based development activities involving women and men from local communities.

70. **Project Operations Manual (POM) and other relevant documents.** A detailed POM – one document combining inputs of all three UN agencies acting as the Implementing Agencies for the project – will be prepared for all project components by effectiveness. A separate CFW Transfer Manual for Component 1 activities implemented by SFD will also be prepared by effectiveness (UNDP will be in charge). The Environmental and Social Commitment Plan (ESCP) and Stakeholder Engagement Plan (SEP) were prepared as joint documents and disclosed on March 26, 2021 (ESCP was re-disclosed on April 12, 2021). Similarly, the Environmental and Social Management Framework (ESMF), Labor Management Plan (LMP) and Security Management Plan (SMP) will all be jointly prepared and coordinated documents. In addition, FAO will prepare the Pest Management Plan (PMP). The POM the CFW Transfer Manual and all environmental and social framework (ESF) documents will be subject to the World Bank's no objection. The due dates of the ESF documents are indicated in the PAD section on environmental and social aspects. The POM and CFW Transfer Manual, in the form and substance satisfactory to the Bank, is a condition of effectiveness.

71. **Financial management and procurement arrangements.** The project's financial management (FM) arrangements will be governed by the Financial Management Framework Agreement (FMFA) between the World Bank and the UN agencies, which provides for the use of the UN's Financial Regulations. For procurement, the UN agencies will follow their own procurement procedures as Alternative Procurement Arrangements, as provided under the World Bank New Procurement Framework Policy Section III. F. These implementation arrangements are sound, since the procurement procedures of the UN agencies were assessed and found acceptable to the World Bank under agreements with UN agencies.



72. **Implementing partners will prepare budgeted Annual Work Plans** and a detailed procurement plan (in agreement with the World Bank). The first budgeted Annual Work Plan will be prepared no later than four months after project effectiveness. It will highlight the activities to be implemented for the subsequent 12 months by component and sub-component with intended results, timeline, budgets and planned procurement activities. It will also identify issues and implementation bottlenecks and relevant remedial actions and outline key responsibilities. In the context of COVID-19 and virtual missions (video/audio), the budgeted Annual Work Plan will be the common communication interface between implementing partners and the World Bank to regularly monitor activities of each component, evaluate progress and discuss corrective actions or changes as needed.

B. Results Monitoring and Evaluation Arrangements

73. **The UN agencies will be responsible for coordinating project monitoring activities for their respective components and sub-components.** The objectives of the M&E system are to measure input, output, and outcome indicators to provide project staff and stakeholders with regular information on project implementation and outputs, identify potential problems, and determine to what extent the project is achieving its development objectives. The M&E methodology will be aligned with the definitions and collection methodologies of the project to enable data aggregation and consolidation at the project-wide level. As an integral part of project implementation, the M&E system will be designed to provide timely and reliable results for management to facilitate informed decision-making. In addition to being an important management tool, the M&E system will be a valuable source of learning and a knowledge management mechanism. Given that the activities under the project in several cases are similar to those already undertaken by the UN agencies, the UN agencies may build the project's M&E system on the basis of their existing M&E systems.

74. **Monitoring and evaluation will be based on the collection and reporting of data on the PDO and intermediate indicators** (see the Results Framework (RF) for a full description of these indicators). The results will be presented to the Bank in semi-annual progress reports (the POM will provide detailed reporting arrangements) as well as the Mid-Term Review (MTR) and final independent evaluation reports. A baseline survey will be conducted in the project areas. Additional surveys will be held at the MTR stage and project completion. For their respective activities, the UN agencies and national institutions will use the detailed data collected through the standard reporting formats for different levels and other relevant documentation, including formats for mobile team reporting and integrated outreach reporting on all interventions. At each UN agency or National Institution hub office data will be collected and reviewed before it is consolidated at the central level by the relevant UN agency. In addition to the results, which will be reported as part of the formal Results Framework indicated in this PAD, each agency will collect additional data as needed.

75. **Additional research to inform food security response mechanism design in FCV context.** The project aims to carry out additional research to assess the effectiveness and efficacy of the activities supported by the project in addressing short, medium and long-term food security. Specifically, the research would analyze the activities, response mechanisms and results achieved under Components 1, 2 and 3. The research carried out through a collaborative process would emphasize capacity building for government partners in understanding the efficacy of specific response mechanisms, the role of project evaluation and interpreting and communicating the evaluation findings in support of evidence-based policy. It would also contribute to informing the implementation of the Bank's Fragility, Conflict and Violence strategy and GAFSP. The knowledge gained from these evaluations will be valuable for finetuning project implementation and potentially informing scaling up of this project or others, as well as strengthening the quality of reports on project impacts. The analytical work would be led by



IFPRI researchers with experience in multiple impact evaluations in Yemen. Additional details on the proposed research is in Annex 2 and will be included in the POM.

76. **In addition to regular M&E activities, each UN agency will hire an independent TPM Agency (TPMA) to assess quarterly performance and field monitoring of project implementation.** The TPMA will be expected to: (1) track performance through the collection of appropriate and credible data and other evidence; (2) analyze evidence to inform decision-making by World Bank and UN agency management; (3) recommend improvements in effectiveness and efficiency as necessary; and (4) report on performance and lessons to facilitate learning and support accountability, including learning from beneficiaries' experience. Data collection, analysis and reporting will be carried out in a gender-disaggregated³⁷ way. The terms of reference (TORs) for the TPMAs will be developed and agreed upon with the World Bank (subject to the Bank's technical review and acceptable to the Bank). All UN agencies will have existing TPMA arrangements, which will be adopted for use under the project. The TPM reports will be shared by the UN agencies with the World Bank immediately upon their receipt from the TPMA (but no later than three business days from the date of receiving the TPMA reports), to enable concurrent supervision and timely assessment of project implementation.

C. Sustainability

77. **The project is expected to have overall positive impacts on agricultural productivity, food security, rural incomes and resiliency of smallholders and rural households.** In the targeted areas, the rates of food insecurity, in the absence of the intervention, are high. The project is expected to improve household food security by increasing food access, availability and affordability (through increased supply and household income). Household nutritional status and incomes would also be improved by increased production and sale and small-scale income generating activities that would contribute to household expenditures on food dietary requirements. Better land and water management and infrastructure, improved agricultural services, and marketing and processing facilities are expected to improve the value of agriculture production and farm income sustainability.

78. **The project's response would include a set of preparedness and resilience-building activities to boost the resilience of vulnerable households to future food security crises:** (1) physical asset improvements for productive purposes to benefit the entire community, such as access to water and access roads, including climate-proofing of those assets; (2) the productive assets received by the households for production purposes would be supported by the necessary extension services, animal health services and access to markets, to ensure sustainability of these production activities; (3) providing beneficiaries with knowledge and capacity building to maximize the nutritional value of food products for family consumption, in particular, to meet children's nutritional needs; (4) the value chain mapping supports potential private sector participation, aiming at future investment in the sector, thus contributing to improved food security and resilience in the longer term; and (5) introducing alternative, climate resilient and land- and water-efficient agricultural production technologies for producing nutritious crops (soil-less technologies, such as hydroponics and aquaponics) in areas where previously production would not have been possible due to limited land resources. As mentioned above, additional analytical work would be carried out to assess the efficacy and efficiency of the proposed response mechanisms, which is also expected to contribute to the sustainability improvement objective.

³⁷ Term "sex-disaggregated" is used here for the purposes of WFP.



79. **The project would also aim to strengthen the country’s resilience and preparedness to respond to food security crises** through two main activities: (1) assisting the GOY in developing an evidence-based food security preparedness plan that would be a dated covenant with a deadline of six months after project effectiveness; and (2) establishing a satellite-based Earth Observation crop and pasture monitoring and early warning system. A monitoring tool based on satellite remote sensing and geographical information systems (GIS) would support most information demands, including: detecting and quantifying the spatial extent of cultivated cropland and pasture area; assessing crop and pasture productivity (yield); and identifying potential crop and pasture failure within the growing season. This tool would support timely agricultural production monitoring and provide information to the GOY for decision-making on food imports planning. It will further strengthen the Ministry of Agriculture and Irrigation’s (MAI) agricultural extension and research capabilities by providing location-specific evidence on areas with crop and pasture stresses. Options for private sector use of this tool for value chain planning and risk management purposes would also be explored.

IV. PROJECT APPRAISAL SUMMARY

A. Technical, Economic and Financial Analysis

Technical

80. **The project includes a complementary set of short-term and medium-term activities to address three key aspects of food insecurity, as well as national-level capacity building for food security response.** All activities under the project have been well tested either under other Bank-financed projects or are part of the “toolkit” of the UN agencies. Thus, UNDP has implemented CFW activities, which are expected to supplement the incomes of beneficiary households in the short term, under previous Bank-financed projects (ECRP in particular). Supporting women entrepreneurship through Cash-for-Training (CfT) and providing specialized foods are part of the toolkit of WFP in Yemen to improve the nutritional status of households. FAO has global expertise in matters related to agriculture sector and nutrition support and development, and country-relevant expertise in Yemen under other Bank-financed projects (such as SAPREP and the DLRP). The project also aims to build capacity to respond to food insecurity at the national level by supporting the preparation of the food security preparedness plan, as well as a crop monitoring tool. The assets provided under the project are accompanied by the relevant technical assistance, capacity building, and awareness raising measures, which will allow the beneficiaries to maximize benefits from the goods and assets received under the project. Technical assistance also includes agro-technical advice to strengthen the climate resilience of project interventions across components. The proposed studies under Component 2 focusing on the fisheries sector and agro-logistics will inform the possible future scale up of the project.

81. **The project will serve as a scalable platform for broad-based support to food security in Yemen going forward.** The complementary activities offered by the project allow for a targeted assessment of their effectiveness and for a scale-up of the relevant activities depending on the developments in the country. Engagement of three UN agencies in project implementation based on their respective expertise, prior experience in Yemen, mandate and presence on the ground, including the FAO, UNDP and WFP, will allow leveraging of the experience and engagement of those agencies going forward. The activities proposed for support under the project have a proven feasibility as they are a scale-up of existing activities, either from previous Bank-financed



projects - as is the case with FAO and UNDP - or their existing portfolio of activities – as with WFP. Therefore, disbursements under the project are frontloaded and the project is expected to be implemented in four years.

Greenhouse Gas Accounting

82. **The World 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 CO₂ equivalent (tCO₂e) of GHGs that were emitted, or carbon sequestered as a result of project interventions—compared to a “without project” scenario. Over the duration of 20 years (implementation phase 4 years, capitalization 16 years), the project constitutes a carbon sequestration -354 540 tCO₂e. Per hectare, the project will sequester -8.5 tCO₂e which is -0.4 tCO₂e per year. The net annual emission is -17 727 tCO₂e. The full GHG accounting summary is provided in Annex 6.

Climate Risk and Disaster Screening

83. **The project was screened for climate and disaster risks.** The climate and geophysical hazards that were identified as likely to be relevant to the project location both now and in the future include extreme temperature, drought, extreme precipitation and flooding, sea-level rise, and geophysical hazards, and the project’s risk of exposure to these hazards was assessed as High. Climate change already has triggered the strongest alterations in water temperature in the Indian Ocean in 60 years. Warmer seas create stronger and more frequent cyclones, as well as more extreme rainfall, which provides ideal conditions for locusts to hatch, breed, and disperse widely. 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) were also assessed as High. Project-supported activities—such as emergency and long-term planning; capacity-building, training, and outreach; data gathering; and the development of management information systems—are seen as mitigating and reducing risk within the project’s immediate and broader development context. The risk analysis identified women as a group that is particularly vulnerable to the impacts of climate and geophysical hazards, but it also determined that the project contains components and activities that are expected to alleviate the risks to women from climate and geophysical hazards. The overall risk to the outcome/service delivery of the project is assessed as Moderate.

Economic and Financial Analysis

84. **Economic viability.** The economic analysis shows that the project is an economically viable investment for the country and the economy as a whole. An Economic Internal Rate of Return (EIRR) of 16.95 percent is estimated for the base case scenario and the Economic Net Present Value (NPV) is at US\$125.95 million. In terms of additional environmental benefits, based on the shadow price calculation using carbon price starting at US\$40 and 80 for 2020 with the growth rate of 2.25 percent per year, the project would generate additional US\$17.53 and US\$35.06 million for the economic lifetime of the project. Under the high case scenario, the EIRR is estimated at 20.68 percent and NPV is approximately US\$164.78 million. Under the low case scenario, the EIRR is 18.78 percent and the NPV was approximately US\$145.37 million. The detailed Economic and Financial Analysis (EFA) is and the summary of the financial profitability of the activities expected to be supported by the project are presented in Annex 5.



85. **Sensitivity Analysis.** The robustness of these indicators was tested and confirmed with a sensitivity analysis assuming different risk scenarios. These include: (a) and increase in project costs (10 percent, 20 percent and 50 percent), (b) reduction in project benefits (10 percent, 20 percent and 50 percent), (c) combined scenarios (reduction in benefits and increase in costs), (d) delay in project benefits (1 and 2 years) and (e) occurrence of external shocks (climate change, prices, others) affecting overall benefits (every 2, 3 and 4 years). The project is assessed to remain an economically sound investment, as profitability indicators remain in a positive range under most scenarios. Table 4 shows a summary of results from the sensitivity analysis.

Table 4: Sensitivity analysis of economic indicators

Sensitivity Analysis							
	Δ%	Risk			EIRR	NPV (US\$)	
Base scenario							
Benefits	-10%	Combined risks on sale prices, yields, adoption rates			16.95%	125,955,843	
	-20%				15.53%	104,387,212	
Costs	10%	Increase in expenses, input prices and unit costs			13.97%	82,818,581	
	20%				15.66%	116,982,796	
Delay 1yr in Benefits		Adoption rate / delays			14.51%	108,009,750	
Delay 2yr in Benefits					14.72%	102,661,604	
External Shock every 2 yr	50% Benefits	External shock (prices, quantities, climate)			12.81%	80,703,910	
External Shock every 3 yr	50% Benefits				14.66%	58,473,466	
Mixed Scenarios		Costs	10%	Benefits	-10%	15.39%	100,081,358
			10%		-20%	14.27%	95,414,166
			20%		-20%	12.74%	73,845,535
			20%		-30%	11.64%	64,872,488
			20%		-10%	13.14%	86,441,119

86. **The project’s economic profitability indicators were estimated under different scenarios to include environmental externalities.** GHG Analysis indicates that over the implementation period of 20 years, the project would reduce carbon emissions by -354 540 tCO₂e from direct and indirect project activities. Under the high case scenario, the EIRR is estimated at 20.68 percent and the NPV is approximately US\$164.78 million. Under the low case scenario, the EIRR is 18.78 percent and the NPV was approximately US\$145.37 million.

B. Fiduciary

(i) Financial Management

87. FAO, UNDP and WFP will maintain separate accounts for the project and ensure that original supporting documents of expenditures are retained. The project will use unaudited Interim Financial Reports (IFRs) for disbursements and will submit the reports on a quarterly basis to the Bank. Funds will flow from the Bank to the recipients’ corporate accounts before flowing to their local bank account or the bank accounts of their implementing partners (in the case of UNDP and FAO) and onward to the ultimate recipients/beneficiaries. The project will follow the audit arrangements agreed between the Bank and UN agencies (the Recipients) as per the FMFA. In case the Association and the Recipient agree that additional due diligence measures are needed, the Recipient will ensure that any additional due diligence measures of its respective part of the project is carried out exclusively in accordance with its Financial Regulations and Rules, and in conformity with the single audit principle observed by the United Nations system as a whole. In addition, the Bank may require additional audits of project activities based on TORs agreed with the Bank.



88. **Fiduciary risk is High.** Table 3 describes the elements of fiduciary risk for the proposed project and the respective mitigation measures. The financial management (FM) risk for this project is high, since some of the proposed mitigation measures (below) are of a long-term nature given the level of work required, the conflict situation and the pandemic circumstances. The implementation of the mitigation measures will be reviewed and the risks will be reassessed as part of the continuous implementation support for the project.

Table 5: Fiduciary Risks and Mitigation Measures for the proposed project

FM Risks	Mitigation Measures
<p>High risk due to limited capacity and fragile independence of TPMAs/auditors, implementing partners (IPs), and M&E consultants. This risk derives from the conflict in Yemen, resulting in reliance on local firms hired directly by the recipients.</p> <p>Impact: Inaccurate reported results. Recipients are relying on the work of IPs and reports from various types of monitoring and review agents. Because contracts of TPMs and auditors can be terminated directly by the hiring agency, this may negatively impact their independence and impartiality in reporting findings.</p>	<ul style="list-style-type: none"> - New assessments of the IPs/TPM agents and audit firms. - The World Bank will explore, with the help of Yemeni Association of Accountants and Auditors, areas where capacity-building support needs to be provided to local firms. - Selection of TPMs and auditors will be in consultation with the World Bank. - TORs for TPMs will be prepared in agreement with the World Bank. - The recipients will share the TPM reports with the World Bank immediately after its review and no more than three business days after the receipt of the reports from the TPM. - Sharing the results of initial assessments of proposed implementing partners with the World Bank before signing with them. In addition, conducting periodic spot checks and annual audits of implementing partners. - Implementation of these mitigation measures will reduce the risk to Substantial.
<p>High risk related to fraud and corruption due to use of cash in IDA projects.</p> <p>Impact: Misuse of IDA funds.</p>	<ul style="list-style-type: none"> - Regular FM reviews of financial reports during supervision missions to ensure compliance with World Bank rules/regulations. - Recipients will maximize use of Direct Implementation modality, by which funds will flow directly from recipients' accounts to the ultimate beneficiaries. - Recipients will rely more on mobile banking and payment agencies to ensure that the funds reach the legitimate beneficiaries. - Implementing these mitigation measures will reduce the risk to Substantial.
<p>High risk stemming from concerns related to the difference in the Yemeni Rial (YER) - US Dollar (US\$) exchange rate between the southern and northern governorates and the associated risks related to possible lack of transparency on how the project funding would be converted from US\$ into YER.</p>	<p>A streamlined mechanism has been developed for the use of market rate in the south. The new mechanism uses the daily published market rate by the Currency Traders Association and maintaining the funds in USD accounts while conversion to YER is made at the time of payment. All implementing partners will apply the new mechanism for the YER treatment in the south. The spot checks and annual audit of implementing partners will ensure compliance with the envisaged new mechanism.</p> <ul style="list-style-type: none"> - This mitigating measure will bring the risk down to



	Moderate.
<p>High risk due to limited capacity of national and international staff on the ground.</p> <p>Impact: Inadequate controls are applied, augmenting the risk of misuse of funds; a gap emerges between what is reported and what is implemented on the ground (inaccurate reporting of results).</p>	<ul style="list-style-type: none"> - All recipients will ensure their finance and compliance departments are sufficiently staffed with qualified individuals who will be responsible for the ex-ante and ex-post review of all transactions. - Implementing these mitigation measures will reduce the risk to Substantial.
<p>High risk of extensive use of advances leading to improper use of funds.</p> <p>Impact: Using the funds for unintended purposes.</p>	<ul style="list-style-type: none"> - Use of Direct Implementation modality, applying strong ex-ante (e.g. enrollment measures) and ex-post controls over payments to beneficiaries. - Implementing these mitigation measures will reduce the risk to Substantial
<p>High risk due to limited access to areas (nationally and sub-nationally) due to conflict.</p> <p>Impact: The number of project beneficiaries could be affected; the capability of TPM and monitoring agents to access those areas and provide assurance on the work could also be affected.</p>	<ul style="list-style-type: none"> - Regular checks by the World Bank team with the UN agencies, national institutions, and monitoring agents to assess the magnitude of this risk and areas affected. - World Bank and UN agencies prepare a plan B to apply in cases where this risk materializes. The residual risk remains High.

89. **Retroactive financing.** Retroactive financing in the amount of SDR 57,000 was agreed with FAO during the negotiations, allowing FAO to obtain reimbursement of eligible expenditures incurred prior to the effectiveness date (which is the Financing Agreement signing date). Such reimbursement can be obtained for payments made on or after January 1, 2021, for Eligible Expenditures under Categories 4 and 5.

(ii) Procurement

90. **Alternative Procurement Arrangements (APA) will be applied** given that the procurement procedures of FAO, UNDP, and WFP (the UN agencies) were assessed and found acceptable to the World Bank under other agreements as allowed by the Procurement Framework Policy Section III. F. Use of APA under this project was approved on March 25, 2021. Additional details on procurement are provided in Annex 4.

91. **FAO, UNDP, and WFP will follow their own procurement procedures to procure the required supplies, including storage and distribution to the final destination.**

92. **Residual procurement risk is rated Substantial** due to the security situation in Yemen, composition of the marketplace (limited competition and availability of service delivery), and the nature of project activities (which are not complex but might be impacted by the situation on the ground in conflict or post-conflict zones).

93. **The project includes risk mitigation measures such as frequent reporting, supplemented by regular direct contact between the World Bank and UN agencies to review the status of activities.** Aside from more frequent and detailed reporting, combined with closer supervision by the World Bank, the Bank will: (1) review and approve the procurement plan and its respective updates, and (2) work closely with the UN agencies on the technical review of the TORs, selection criteria and summary of the qualifications of the winning candidate or the successful candidates as the case may be for the various UN agencies, for the selection of the TPMAs. UN agencies will provide semi-annual reports on progress with implementation of the procurement plan.



94. **The UN agencies will be responsible for:** (1) implementing the procurement plan as agreed with the World Bank; (2) hiring the TPMAs; (3) preparing a semi-annual report on the progress of procurement and distribution and preparing updates on the implementation of the Environmental and Social Commitment Plan (ESCP); (4) reporting on the indicators in the results framework; and (5) providing other relevant performance information to the World Bank as requested.

C. Legal Operational Policies

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

95. **The following waiver is sought from the IDA Board of Executive Directors for third-party implementation:** a waiver to the application of the Anti-Corruption Guidelines for the respective grants from IDA and GAFSP. A waiver is sought of the Bank Directive for Investment Project Financing and Section 5.14 of the IDA General Conditions for Credits and Grants for Investment Project Financing, which would otherwise require application of the World Bank’s Anti-Corruption Guidelines, in favor of relying on the fraud and corruption procedures of FAO, UNDP and WFP.

D. Environmental and Social

96. **The environmental risk rating is Substantial.** This project is expected to have greater environmental benefits than adverse environmental impacts, nonetheless, some potential environmental risks and impacts might be caused by implementing interventions under Components 1, 2 and 4. Specifically, the CFW program which will be financed under Component 1 might have significant risk of fatal incidents and/or serious injuries. This is anticipated as the project will provide temporary work opportunities to a large number of local community members, with little or no knowledge or experience in applying occupational health and safety (OHS) measures. Furthermore, there is a risk of COVID-19 transmission among community workers if worksites are not managed appropriately. Other potential negative impacts might be generated under Component 2 which will provide farmers with inputs starter packages for crops or livestock, inputs to start fish farming, beekeeping kits, farm equipment such as fodder choppers and small dairy equipment, post-harvest handling and storage facilities. In addition, Component 4 might also result in some impacts as it will support the introduction of alternative, land- and water-efficient agricultural production technologies for production of nutritious crops (soil-less technologies, such as hydroponics and aquaponics). Environmental impacts for such interventions include noise, generation of dust and solid wastes which are expected to be localized and mitigatable. Some of these impacts are also expected during the operation phase as well, such as generation of limited amounts of waste, use of water and OHS impacts. Although pesticide procurement is not envisaged under the project, farming is expected to both improve and/or to change cropping patterns to pilot commercially viable, socially-inclusive, and water-efficient agriculture using hydroponics and aquaponics. These improvements are expected to include the use of agricultural conditioners, fertilizers and pesticides.

97. **To address and manage any potential adverse risks and impacts, and to ensure that environmental and social management is integrated into the development cycle of individual activities, an ESMF will be prepared, including a screening tool, to identify activities that might have adverse environmental impacts.** The ESMF will:



(1) identify potential environmental impacts of project interventions, (2) assess potential environmental and social impacts, and (3) mitigate risks and impacts appropriately, including OHS risks. Furthermore, activities will be screened against environmental and social criteria that will be included in the ESMF, and subsequent site-specific environmental assessment instruments will be prepared as needed during the implementation phase and before the commencement of any physical activities. The ESMF will be prepared and disclosed in country within one month of project effectiveness. As per the project's Environmental and Social Commitment Plan (ESCP, disclosed on March 26, 2021 and redisclosed on April 8, 2021), the implementing agencies, i.e., FAO, UNDP and WFP, in close collaboration with SFD, PWP and SMEPS, will be responsible for preparing and implementing the ESMF.

98. **A Pest Management Plan (PMP) will be prepared to ensure that proper measures will be implemented for adequate storage and use of conditioners, fertilizers and pest management to mitigate any potential risks on farmers or on community health and safety.** The PMP will include screening procedures to determine if activity-specific Pest Management Plans (PMPs) will be prepared for activities involving the use of pesticides and recommend measures for procurement, transport, handling, storage and application of pesticides. The PMP will be prepared and disclosed in country within two months of project effectiveness. FAO will be responsible for preparation and implementation of PMP procedures and measures in close collaboration with the relevant national institutions.

Social Benefits and Risks

99. **The project is expected to bring significant social benefits to the target communities** by creating temporary employment opportunities through a CFW Program under Component 1 to alleviate food security and improve household income. Besides, component 2 will support restoring local food production and increase the sales of crops and livestock. Component 3 includes the promoting diversified nutrient crops for households to establish gardens and backyards production. Component 4 would provide capacity-building for food security management. The proposed interventions are to restore and rehabilitate farms and fields and are planned to take place within existing footprints. Potential adverse social impacts that may occur would be related to the CFW activities for rehabilitating farmlands and reconstructing irrigation networks which are expected to be small. These have a potential for labor-related impacts and risks, such as possible child labor, forced labor, discriminatory practices in recruitment, occupational health and safety issues, and possible conflicts with local communities of investment benefits.

100. **Social risks are substantial.** The social risks of the proposed project are considered Substantial, mainly because of the risk that elites and relatively more fortunate individuals will capture the benefits and undermine project objectives by excluding poor and vulnerable groups such as the elderly, poor farmers, women, and individuals displaced by the ongoing conflict. The main challenge is thus to ensure that services provided by the project reach the affected population and are distributed in a transparent, equitable manner. There are also security risks in that the adverse social impacts of the project may give rise to a limited degree of social conflict or harm to human security. To mitigate these social risks, FAO, UNDP and WFP will jointly prepare a security management plan (SMP) and will work closely with SFD, PWP and SMEPs to define key selection criteria for target areas; these criteria will form part of the stakeholder engagement process, including the disclosure of public information and outreach related to the project. Project implementation also will ensure appropriate stakeholder engagement to avoid conflicts resulting from unfair distribution of services, the inability of vulnerable groups to access services, or issues related to the location of producers in remote rural areas.



101. **The risk of social exclusion will be mitigated by the long and combined experience of FAO, UNDP and WFP working in Yemen and the capacity of SFD, PWP and SMEPs to provide a participatory, inclusive, and transparent mechanism to identify and target beneficiaries based on clear eligibility criteria.** The ESMF will help to mitigate potentially high adverse environmental and social impacts stemming from the selection and implementation of sub-projects. The ESMF will be prepared jointly by the implementing partners and will include a section on the GBV action plan. As for the SMP, it will be prepared by the three implementing partners as a standalone document. Among others, the TPMAs hired under the project will monitor environmental and social aspects and help ensure compliance.

102. **A Stakeholder Engagement Plan (SEP; disclosed on March 26, 2021) will enable the project to identify and reach the most vulnerable groups in communities affected by food security.** Implementation of the SEP will ensure appropriate stakeholder awareness raising and engagement, as well as timely information dissemination to: (1) help the project provide the maximum possible equitable access to services for all who need them; (2) address the issues of those most affected by the food crisis (very poor farmers, women, and the elderly, for example); and (3) address the exposure of rural women to gender-based violence (GBV). A GBV risk assessment will be conducted for the project based on the project interventions. FAO, UNDP and WFP will recruit an NGO experienced in GBV assessment to monitor and report on potential cases. The SEP will also include an updated GRM to address any concerns and grievances raised (see the next paragraph). The GRM will forward information to the GBV specialists (focal points) within the implementing partners to continuously and confidentially assess and address risks related to GBV and/or sexual exploitation and abuse.

103. **Labor Management Procedure (LMP).** The implementing agencies (FAO, UNDP and WFP) in coordination with the local partners (SFD, PWP, SMEPS) will develop the LMP which will include an overview of the labor use under the project, assessment of the key potential labor risks, terms and conditions of the national legislation, OHS & GBV risks, responsible staff, policies and procedures, age of employment, grievance mechanism and contract management.

104. **To respond to complaints or concerns related to project activities,** each UN agency and Implementing Partner will adopt a GRM or adapt their existing GRM for the use under the project. The FAO, UNDP and WFP, as the case may be, will take overall responsibility for managing complaints received through SFD, PWP, SMEPS and other Implementing Partners. The UN agencies and Implementing Partners will disseminate their hotline numbers at regional and local levels to increase accountability at those levels to citizens' inquiries. This GRM system will include multiple uptake mechanisms (telephone, complaints box, website, email, and text messaging). It will be critical to have good communication on the processes of the GRM system, both in terms of beneficiaries' rights and the boundaries of the system. Complaints received by the GRM system will be registered, tracked, investigated, and promptly resolved.

105. **Gender considerations.** The conflict in Yemen is having a particularly negative impact on women and their ability to perform their daily activities, including farming and raising animals. The project design has included specific sub-components to target women beneficiaries in Components 2, 3 and 4. It will support women under CFW, provide training in target areas on community health, nutrition, and cultivation of plants in home gardens to promote diversified nutrient crops; and more generally support women farmers in restoring their agricultural land and other livelihood activities.

106. **The project will aim to support less risky agriculture activities for women as alternatives to high-risk**



activities. This may involve supporting kitchen gardens or backyard farms and home-based aquaculture as potentially less risky agricultural enterprises. The project will promote small ruminant husbandry to women to be considered as a promising strategy to support farming communities in conflict, as goats and sheep do not require specialized feed, and can be raised in large numbers closer to home. Providing training for women and youth as CAHWs would be beneficial to the communities and ensure an alternative way for the animal producers to access veterinary services and animal health equipment. As agricultural value chains in Yemen have been disrupted by conflict and protracted crisis, the project will seek opportunities to involve women through supporting different elements of the value chain and agriculture-related services. Moreover, the project will enhance women's involvement and participation in agricultural extension services. The gender and traditional roles in rural Yemen put an additional burden on women by giving them the primary responsibility for fetching water. The project will strengthen the community water infrastructure which will help reduce the workload of rural women. The project's engagement with rural women in improving the basic dairy value chain will help them to produce more and better-quality dairy products and to better support their livelihoods and their families' nutritional status.

Communication and Outreach

107. **Effective, consistent communications and outreach will be essential for the success of the project.** First, raising awareness among the project's existing and potential beneficiaries will be critical for their engagement, and effective communications will ensure accessible information and an open dialogue to encourage the active participation of various segments of the population. Second, successful communications and outreach will encourage accountability. Communications tools will help enhance overall transparency and openness and promote citizen engagement by ensuring that beneficiaries understand how to utilize grievance redress mechanisms. Third, a well-planned and executed communications strategy will help identify project obstacles and opportunities and develop tactics for mitigating the former and leveraging the latter.

108. The communications strategy for the Cash-for-Work activities will promote widespread understanding of project objectives and procedures—particularly at local levels—through a clearly articulated public awareness campaign throughout project implementation. Communications activities will be designed to build citizens' awareness about their rights, eligibility, and the services they can access. They will also include a special emphasis on vulnerable groups. The World Bank will work closely with FAO, UNDP, WFP, PWP and SMEPS to develop a well-designed communications and outreach strategy that covers all aspects of the project and help ensure its success.

V. GRIEVANCE REDRESS SERVICES

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



[services/grievance-redress-service](#). For information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org.

VI. KEY RISKS

110. **The overall risk rating is High.** This rating stems from the exceptional context of the ongoing conflict in the Republic of Yemen. The key risks that may affect the achievement of the PDO and results are: (1) political and governance; (2) sector strategies and policies; (3) macroeconomic; (4) environmental and social; (5) technical design; (6) institutional capacity for implementation and sustainability; (7) fiduciary; (8) stakeholders; and (9) other risks, namely, risks related to the lack of an official counterpart and security situation. The project activities are similar to those implemented under SAPREP, which has achieved good results on the ground and has been completed with a *Satisfactory* rating. A considerable degree of risk is inherent, however, due to the country context, the rapidly evolving situation on the ground, and the difficult operating environment. For that reason, the overall residual risk remains High.

111. **Political and governance risks are High.** These specifically include the risk of political interference in project activities. Difficulties in supervision and implementation may result in the diversion of funds to benefit populations in areas linked to political interests. In addition, the control of geographical areas by different political or armed factions could lead to interference and inadequate targeting of vulnerable people. Key mitigation measures include: (a) establishing communication and facilitation arrangements that enlist the support of all relevant political and community actors at the national, governorate, and local levels to promote safe and politically neutral implementation of the project; (b) awareness raising and training of the communities and project beneficiaries, (c) working with politically neutral implementing partners, and (d) using remote supervision arrangements (GEMS). The residual risk remains High.

112. **Macroeconomic risk is High.** A sharp depreciation of the currency would trigger high inflation, compounding the risk of working in this challenging operating environment. Cash transfer programs in the North could potentially be disrupted by the limited availability of old banknotes. Liaising with partner banks to ensure sufficient availability of appropriate notes for each region is necessary to minimize inconvenience to beneficiaries. The economic impact of the conflict has been devastating for Yemen, which suffered from weak economic performance prior to the conflict; the COVID-19 pandemic and the other key aggravating factors described in the PAD, including floods, pests and others, add to the economic burden. While risks associated with macroeconomic weaknesses cannot be fully mitigated, it is expected that the project will have a positive impact on the national economy and food security.

113. **Sector strategies and policies.** The risk is rated as **Substantial**. The overall sector priorities have shifted as a result of the conflict and may be revised again depending on the situation in the country, which adds to sectoral volatility. Yet food security has been a consistent priority since the start of the conflict and even before. This risk will be mitigated by the project through its interventions, including the development of the food security preparedness plan, which will allow for a broader engagement and stronger coordination among government entities and different partners on prevention and response mechanisms of varied duration (immediate/short-term as well as medium-term) to strengthen household resilience to food insecurity.



114. **Environmental and social risks are Substantial.** Overall, the direct benefits and positive externalities of project interventions are significant compared to the risks and identified. Nonetheless, the challenging environment in which the project is implemented translates into Substantial residual risk. The environmental risks and impacts under this project are related mainly to the OHS-associated risks, pollution of ecological habitats, contamination of land and water used for agriculture (including livestock), and localized noise and waste generation. The social risks are mainly related to inequitable and non-transparent access to project services by the affected population and vulnerable groups, owing to factors such as elite capture and the ongoing conflict. These risks and associated risk mitigation measures are discussed in detail in Section IV.D of the document.

115. **Stakeholder risks are Substantial.** Negative media coverage has targeted UN agencies in Yemen. Given that the project aims to reach around 1 million beneficiaries across all components, the main risks are associated with the varied level of access to information among the population. The project will include extensive communication and awareness campaigns to the population, nevertheless, the residual risk is considered Substantial.

116. **Fiduciary risks are High.** Stemming from the risks associated with the overall operating environment in Yemen, the fiduciary risks are considered High. Detailed information on the elements of fiduciary risk and their respective mitigation measures is provided in Section IV.B and Annex 3 of the PAD. Issues identified during SAPREP implementation will require regular follow up on the actions taken to address the audit findings pertaining to the project's fiduciary aspects (implemented by FAO). The requirement for maintaining adequate financial records for accounting and reporting purposes under the project has been significantly strengthened. The implementation of the mitigation measures will be reviewed, and the risks will be reassessed as part of continuous implementation support of the project. Notwithstanding the risk mitigation measures, the overall risks remain High.

117. **Other risks are High.** Risks related to the lack of an official counterpart remain, as well as the risks associated with the security situation in the country. If the conflict escalates and UN offices in Yemen close, the risk that implementation would come to a halt will be mitigated by local staff following the business continuity plan for project implementation as much as feasible. The greatest security risks associated with the ongoing conflict in many locations are the threat of airstrikes on project sites, or threat of physical violence for individuals involved in the implementation of the project. The security situation in Yemen may also impact the assets procured under the project. In order to reduce possible looting episodes, the project assets will only be kept and stored in fenced and secured areas and buildings and guarded by (private) security personnel as needed. In addition, the increasing uncertainty presented by the COVID-19 pandemic may present implementation challenges, for instance, the introduction of the quarantine regimes between South and North may delay access to potential project sites. A key mitigation measure includes establishing clear mechanisms to identify security threats to the project and to communicate changes in threat levels to the various parties involved in project implementation. The residual risk therefore remains High.



VII. RESULTS FRAMEWORK AND MONITORING³⁸

Results Framework

COUNTRY: Yemen, Republic of
Yemen Food Security Response and Resilience Project

Project Development Objectives(s)

The Project Development Objective is to improve the availability of and access to food and nutritious diets, both in the short and medium term, for targeted households in the Project Area, and to enhance Yemen's capacity to respond to food insecurity.

Project Development Objective Indicators

Indicator Name	PBC	Baseline	Intermediate Targets		End Target
			1	2	
Access and availability of food and nutritious diets at household level improved.					
Households (HH) with improved Food Insecurity Experience Scale (FIES) (Percentage)		0.00	25.00	30.00	35.00
Percentage of female-headed households (HH) with improved FIES (Percentage)		0.00	25.00	30.00	35.00
Percentage of women in households with minimum dietary diversity (Percentage)		0.00	30.00	50.00	70.00
Percentage of children consuming minimum acceptable diet. (Percentage)		18.30	70.00	70.00	70.00
Increase in the volume of agri-food products commercialized by beneficiaries		0.00	10.00	20.00	30.00

³⁸ The Project M&E system here means the relevant M&E information provided by all UN agencies and Implementing Partners from their M&E systems, as the case may be.



Indicator Name	PBC	Baseline	Intermediate Targets		End Target
			1	2	
(Percentage)					
Increase in the volume of agri-food products commercialized by female beneficiaries (Percentage)		0.00	10.00	20.00	30.00
Country capacity to respond to food insecurity strengthened					
Preparedness to respond to food security crises improved, through the adoption of the food security preparedness plan and the use of the EO monitoring tool. (Yes/No)		No	No	Yes	Yes
Food Security Preparedness Plan elaborated and adopted by all relevant parties (Yes/No)		No	Yes	Yes	Yes
Earth Observation (EO) crop and pasture monitoring and early warning system established and operational. (Yes/No)		No	No	Yes	Yes

Intermediate Results Indicators by Components

Indicator Name	PBC	Baseline	Intermediate Targets		End Target
			1	2	
Improving household incomes through CFW for ag. production infrastructure and climate resilience					
Persons benefiting from cash-based transfers (Number)		0.00	7,930.00	23,800.00	26,456.00
Women recipients benefitting from cash-based transfers. (Number)		0.00	1,414.00	4,242.00	6,614.00



Indicator Name	PBC	Baseline	Intermediate Targets		End Target
			1	2	
Person work-days generated by emergency cash-for-work schemes (Number)		0.00	225,000.00	675,000.00	750,000.00
Person work-days generated by emergency cash-for-work schemes benefiting women (Number)		0.00	56,250.00	168,750.00	187,500.00
Farmers with improved access to water resources (Number)		0.00	3,843.00	11,529.00	12,810.00
Female farmers with improved access to water resources (Number)		0.00	1,153.00	3,459.00	3,843.00
Farmers with improved access to land resources (Number)		0.00	859.00	2,577.00	2,864.00
Female farmers with improved access to land resources (Number)		0.00	215.00	645.00	716.00
Increasing production and sale of nutritious crop, livestock and fish products					
Smallholder farmers receiving productivity enhancement support (Number) (Number)		0.00	30,000.00	62,000.00	77,275.00
Smallholder female farmers receiving productivity enhancement support (Number)		0.00	7,500.00	15,500.00	19,300.00
Small ruminants treated and vaccinated against PPR and SGP (Number)		0.00	4,000,000.00	6,000,000.00	8,000,000.00
Ruminants treated and vaccinated against PPR and SGP of female livestock keepers (Number)		0.00	1,000,000.00	1,500,000.00	2,000,000.00
Smallholder farmers who have received climate-smart agriculture support (Number)		0.00	14,600.00	30,000.00	36,590.00
Smallholder female farmers who have received climate-smart agriculture		0.00	3,700.00	7,300.00	9,100.00



Indicator Name	PBC	Baseline	Intermediate Targets		End Target
			1	2	
support (Number)					
Farmers adopting improved agricultural technology (CRI, Number)	0.00		12,480.00	24,960.00	31,200.00
Farmers adopting improved agricultural technology - Female (CRI, Number)	0.00		3,120.00	6,240.00	7,800.00
Farmers adopting improved agricultural technology - male (CRI, Number)	0.00		9,360.00	18,720.00	23,400.00
Land area receiving improved production support (CSA) (Hectare(Ha))	0.00		20,000.00	42,000.00	42,000.00
Farmers with improved access to markets through value chains (Number)	0.00		4,360.00	8,720.00	10,900.00
Female farmers with improved access to markets through value chains (Number)	0.00		870.00	1,500.00	3,000.00
Improving the nutritional status of vulnerable rural households					
Households receiving homegardening and backyard farming start-up kits (Number)	0.00		7,000.00	14,000.00	20,000.00
Households adopting improved nutrition sensitive practices (Percentage)	0.00		25.00	60.00	80.00
Beneficiaries receiving quality nutrition products (Number)	0.00		518,230.00	518,230.00	518,230.00
PLWG receiving quality nutrition products (Number)	0.00		189,600.00	189,600.00	189,600.00
Infants receiving quality nutrition products (Number)	0.00		109,540.00	109,540.00	109,540.00
Young children receiving quality nutrition products (Number)	0.00		219,090.00	219,090.00	219,090.00



Indicator Name	PBC	Baseline	Intermediate Targets		End Target
			1	2	
Women businesses supported (Number)		0.00	600.00	1,700.00	2,500.00
Women entrepreneurs continuing business activity one year after establishment (Percentage)		0.00	50.00	50.00	50.00
Percentage of target population that participates in an adequate number of distributions (adherence) (Percentage)		60.20	62.00	64.00	66.00
Assisted households (HH) with acceptable Food Consumption Score (FCS) (Percentage)		70.90	71.00	72.00	73.00
Assisted female-led households (HH) with acceptable Food Consumption Score (FCS). (Percentage)		70.50	71.00	72.00	73.00
Capacity building for food security management					
Increase in the number of female extension agents (Percentage)		0.00	15.00	20.00	25.00
Increase in the number of farmers using extension services (Percentage)		0.00	25.00	35.00	50.00
Increase in the number of female farmers using extension services. (Percentage)		0.00	25.00	35.00	50.00
Project Management and Knowledge Management					
Grievances registered and addressed in a timely manner (Percentage)		0.00	100.00	100.00	100.00
Beneficiaries satisfied with the project support. (Percentage)		0.00	85.00	85.00	85.00
Female beneficiaries satisfied with the project support. (Percentage)		0.00	85.00	85.00	85.00



Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Households (HH) with improved Food Insecurity Experience Scale (FIES)	Share of Households (HH) 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.	FAO
Percentage of female-headed households (HH) with improved FIES	Share of female-headed Households (HH) 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.	FAO
Percentage of women in households with minimum dietary diversity	The indicator serves as a proxy for the probability of micronutrient adequacy of women's diets. It measures dietary diversity for women aged 15–49 years in the project beneficiary households. At least 5 of the 10 food groups are expected	Annual	Project M&E system.	Project progress reports and beneficiary surveys.	FAO, WFP



	to be consumed.				
Percentage of children consuming minimum acceptable diet.	Proportion of children (aged 6-23 months) who consumed a minimum acceptable diet in the beneficiary households.	Annual	Project M&E system	Project progress reports and beneficiary surveys	WFP
Increase in the volume of agri-food products commercialized by beneficiaries	Increase in the surplus products produced by beneficiaries and sold on the market.	Annual	Project M&E system.	Project progress reports and beneficiary surveys.	FAO, SMEPS.
Increase in the volume of agri-food products commercialized by female beneficiaries	Increase in the surplus products produced by female beneficiaries and sold on the market.	Annual	Project M&E system.	Project progress reports and beneficiary surveys.	FAO, SMEPS.
Preparedness to respond to food security crises improved, through the adoption of the food security preparedness plan and the use of the EO monitoring tool.	Achievement of the indicator requires: (i) elaboration and adoption by all relevant parties of the Food Security Preparedness Plan and (ii) establishment of the the EO monitoring tool for crop monitoring and early warning.	Annual	Project M&E system.	Project progress reports.	FAO
Food Security Preparedness Plan elaborated and adopted by all relevant parties	Food Security Preparedness Plan elaborated in a highly participatory manner and adopted by all relevant parties.	Annual	Project M&E system	Project progress reports	FAO
Earth Observation (EO) crop and pasture monitoring and early warning system established and operational.	Earth Observation (EO) crop and pasture monitoring and early warning system	Annual	Project M&E system.	Project progress reports.	FAO



	established and operational; data available to interested parties, including the private sector.				
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Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Persons benefiting from cash-based transfers	Number of beneficiaries (workers) under the Cash-for-Works program benefiting from cash-based transfers.	Semi-annual	Project M&E system.	Project progress reports	UNDP, SFD
Women recipients benefitting from cash-based transfers.	Number of female beneficiaries under the Cash-for-Works program, directly benefiting from cash-based transfers.	Semi-annual	Project M&E system.	Project progress reports.	UNDP, SFD
Person work-days generated by emergency cash-for-work schemes	Number of person work-days generated for target beneficiaries though emergency cash-for-work schemes.	Semi-annual.	Project M&E system	Project progress reports	UNDP, SFD
Person work-days generated by emergency cash-for-work schemes benefiting women	Number of person work-days generated for female beneficiaries though emergency cash-for-work schemes.	Semi-annual.	Project M&E system.	Project progress reports	UNDP, SFD.
Farmers with improved access to water resources	Number of farmers with improved access to water	Semi-annual	Project M&E system	Project progress reports	UNDP, SFD



	resources, resulting from the improved water infrastructure under the Cash-for-Works program.				
Female farmers with improved access to water resources	Number of female farmers with improved access to water resources, resulting from the improved water infrastructure under the Cash-for-Works program.	Semi-annual	Project M&E system	Project progress reports	UNDP, SFD
Farmers with improved access to land resources	Number of farmers with improved access to land resources, resulting from the land improvements (terracing, etc.) under the Cash-for-Works program.	Semi-annual	Project M&E system	Project progress reports	UNDP, SFD
Female farmers with improved access to land resources	Number of female farmers with improved access to land resources, resulting from the land improvements (terracing, etc.) under the Cash-for-Works program.	Semi-annual	Project M&E system	Project progress reports	UNDP, SFD
Smallholder farmers receiving productivity enhancement support (Number)	Smallholder farmers (crop, animal and bee-keepers and fish farmers) receiving input kits and agro-technical advice.	Semi-annual	Project M&E support	Project progress reports	FAO, SFD
Smallholder female farmers receiving productivity enhancement support	Smallholder female farmers (crop, livestock producers, bee-keepers and fish farmers) receiving input kits	Semi-annual	Project M&E system	Project progress reports	FAO, SFD



	and agro-technical advice.				
Small ruminants treated and vaccinated against PPR and SGP	Small ruminants treated and vaccinated against PPR and SGP.	Semi-annual	Project M&E system	Project progress reports	FAO
Ruminants treated and vaccinated against PPR and SGP of female livestock keepers	Number of ruminants owned by female livestock keepers treated and vaccinated against PPR and SGP	Semi-annual	Project M&E system	Project progress report	FAO
Smallholder farmers who have received climate-smart agriculture support	Number of smallholder farmers who have received climate-smart agriculture support as CSA-friendly inputs or agro-technical advice. The eligible CSA practices will be defined in the POM.	Semi-annual	Project M&E system	Project progress reports	FAO
Smallholder female farmers who have received climate-smart agriculture support	Percentage of female smallholder farmers who have received climate-smart agriculture support as CSA-friendly inputs or agro-technical advice.	Semi-annual	Project M&E system	Project progress reports	FAO
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.	Semi-annual	Project M&E system	Project progress reports	FAO



	<p>NB: "Agriculture" or "Agricultural" includes: crops, livestock, capture fisheries, aquaculture, agroforestry, timber and non-timber forest products.</p> <p>Adoption refers to a change of practice or change in use of a technology that was introduced or promoted by the project.</p> <p>Technology includes a change in practices compared to currently used practices or technologies (seed preparation, planting 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</p>				
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	<p>schedule, plant protection, etc.), this counts as one technology.</p> <p>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.</p>				
Farmers adopting improved agricultural technology - Female		Semi-annual	Project M&E system	Project progress reports	FAO
Farmers adopting improved agricultural technology - male					
Land area receiving improved production support (CSA)	Land area that received receiving improved production support - climate smart agriculture technology or methodology application	Semi-annual	Project M&E system	Project progress reports	FAO
Farmers with improved access to markets through value chains	Number of farmers with improved access to markets through value chains supported by the project.	Semi-annual	Project M&E system.	Project progress reports	FAO, SMEPS
Female farmers with improved access to markets through value chains	Number of female farmers with improved access to markets through value chains supported by the project.	Semi-annual	Project M&E system	Project progress reports	FAO, SMEPS



Households receiving homegardening and backyard farming start-up kits	Number of beneficiary households receiving startup kits (agricultural inputs) for kitchen gardens and backyard production of poultry.	Semi-annual	Project M&E system.	Project progress reports	FAO
Households adopting improved nutrition sensitive practices	Share of beneficiary households adopting improved nutrition sensitive practices.	Semi-annual	Project M&E system.	Project progress reports.	FAO
Beneficiaries receiving quality nutrition products	Beneficiaries receiving quality specialized nutritional products for pregnant and lactating women and girls and children.	Semi-annual	Project M&E system	Project progress reports	WFP
PLWG receiving quality nutrition products	Pregnant and lactating women and girls (PLWG) receiving quality specialized nutritional products for pregnant and lactating women and girls and children.	Semi-annual	Project M&E system	Project progress report	WFP
Infants receiving quality nutrition products	Number of infants age 6 - 23 months receiving quality nutrition products.	Semi-annual	Project M&E system	Project progress reports	WFP, FAO
Young children receiving quality nutrition products	Young children age 24 - 59 months receiving improved nutrition products.	Semi-annual	Project M&E system	Project progress report	WFP
Women businesses supported	Number of women businesses supported through the project's	Semi-annual	Project M&E system	Project progress reports	WFP



	entrepreneurship support program.				
Women entrepreneurs continuing business activity one year after establishment	Share of women entrepreneurs continuing business activity one year after receiving the grant for micro and small business development	Semi-annual	Project M&E system	Project progress report	WFP
Percentage of target population that participates in an adequate number of distributions (adherence)	The indicator will measure the share of target population (PLWG) that participate a sufficient number of times in the distribution of the nutritious foods to improve their nutrition (adherence), based on WFP methodology.	Semi-annual	Project M&E system.	Project progress reports	WFP
Assisted households (HH) with acceptable Food Consumption Score (FCS)	Share of households assisted under the project with acceptable Food Consumption Score (FCS). The FCS aggregates household-level data on the diversity and frequency of food groups consumed over a time period, which is then weighted according to the relative nutritional value of the consumed food groups.	Semi-annual.	Project M&E system.	Project progress reports and beneficiary surveys.	WFP
Assisted female-led households (HH) with acceptable Food Consumption Score (FCS).	Share of the project-assisted female-led households (HH) with acceptable Food	Semi-annual.	Project M&E system.	Project progress reports and beneficiary surveys.	WFP



	Consumption Score (FCS).				
Increase in the number of female extension agents	Increase in the number of female extension agents trained by the project and hired by the extension service.	Semi-annual	Project M&E system	Project progress report	FAO
Increase in the number of farmers using extension services	Increase in the number of farmers using extension services, compared before and after the project, as the capacity of the extension services has been built by the project.	Semi-annual	Project M&E system	Project progress reports	FAO
Increase in the number of female farmers using extension services.	Increase in the number of female farmers using extension services, compared before and during the project, as the capacity of the extension services has been built by the project.	Semi-annual.	Project M&E system	Project progress reports	FAO
Grievances registered and addressed in a timely manner	Percentage of grievances registered and addressed within 14 days of registration.	Monthly	GRM reports and Project M&E system	GRM reports and Project progress reports	All Implementing Agencies and Implementing Partners
Beneficiaries satisfied with the project support.	Level of satisfaction of beneficiaries with the support received from the project.	Semi-annual	Project M&E system, and beneficiary surveys.	Project progress report and beneficiary surveys.	All Implementing Agencies and Implementing Partners.



Female beneficiaries satisfied with the project support.	Level of satisfaction of female beneficiaries with the support provided by the project.	Semi-annual	Project M&E system and beneficiary surveys.	Project progress reports and beneficiary surveys.	All Implementing Agencies and Implementing Partners.
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ANNEX 1: Country Program Adjustment Responding to COVID-19

COUNTRY: Yemen, Republic of Yemen Food Security Response and Resilience Project

WBG Program:

1. The current CEN for Yemen for FY20–21 is focused on: (i) preserving basic services and the institutions that deliver them, and (ii) supporting people’s livelihoods and the potential for economic recovery. Priorities include institutional capacity, improving service delivery, especially in health, WASH, education and social protection, and providing support to conflict-affected vulnerable Yemenis. These priorities are further relevant in the face of the COVID-19 crisis.

Impact of the COVID-19 Pandemic on Yemen and Government Response:

2. COVID-19 continues to be on a trajectory of escalation in Yemen and will remain so for the near future. The disease is in full transmission, but testing capacity remains limited. Official numbers (5,770 cases, 1,119 deaths as of April 18, 2021) do not reflect the situation on the ground, and the exact magnitude of outbreaks is unknown. Yemen’s high fatality rate (about 30 percent is attributed to stigmatization against hospital visits, leading to higher testing of severe cases and mild cases remaining undetected).

3. The impact of COVID-19 on Yemen has been devastating. Already weak systems are being stretched further, and a lack of reliable electricity supply is impeding an effective public health response. COVID-19 is reducing the demand for routine services such as immunization and maternal care, thereby negatively impacting child and maternal mortality. Similarly, the impact on education is devastating, with school closures leaving over six million children out of school.

4. While official economic data remain unavailable, anecdotal evidence indicates a likely contraction of the economy from an already low base in the first half of 2020, affected by low global oil prices and COVID-19 related slowdown. With a contraction of hydrocarbon revenue, the main source of public revenue, the government has no fiscal space to respond to the COVID-19 crisis. Foreign exchange shortages deepened further with the depletion of Saudi Arabia’s import financing facility, reduced oil exports, and downsizing of humanitarian assistance. Remittance inflows from the GCC countries may have contracted from the regional economic slowdown. Some breathing space was provided in April 2020 through the IMF Catastrophe Containment and Relief Trust (CCRT). The Government confirmed its participation in the DSSI and signed the Paris Club MoU in October 2020.

5. Deteriorating economic conditions have likely translated into worsening poverty. Yet the conflict-related absence of data since 2014 prevents an assessment of the distributional impact of COVID-19. Approximately 80 percent of respondents of a monthly mobile phone survey conducted by the WFP had difficulty accessing food or basic services. These difficulties have been exacerbated by COVID-19, with households increasingly having trouble accessing food markets, receiving pay, and accessing medical care. The worsening of conditions peaked in June 2020 and remain significantly worse than at the beginning of the pandemic.



WBG Support for Responding to the Crisis:

6. The World Bank's portfolio and pipeline are closely aligned with the four thematic pillars of the WBG Crisis Response to the COVID-19 pandemic:

(1) Support to health for saving lives threatened by the virus: On April 2, 2020, the Board of Directors approved the COVID-19 Response Project which aims to prevent, detect, and respond to the threat posed by the COVID-19 pandemic. The Bank is also preparing a follow up operation to the existing Emergency Health and Nutrition Project (EHNP) to address urgent health sector needs. This project will include a COVID-focused WASH component.

(2) Protecting the poor and vulnerable: A new Social Protection Enhancement and COVID-19 Project was approved on December 17, 2020. The project aims to improve social security and food security, particularly in the face of COVID-19 and resulting food price increases. It is a follow up to the ongoing Emergency Crisis Response Project (ECRP). The proposed Food Security and Resilience Project with funding from the IDA CRW window and the GAFSP is also part of this pillar.

(3) Ensuring sustainable business growth and job creation: The above-mentioned ECRP finances cash-for-work and support to small and medium enterprises, thus enhancing employment among the poor and vulnerable.

(4) Strengthening policies, institutions, and investment for rebuilding better: All new operations will feature an increased focus on local institutions and contribute to local capacity building. A new Restoring Education and Learning Project was approved on December 17, 2020. The project is tailored to focus on quality and access, including distance learning. In addition, the Integrated Urban Service Delivery Project under preparation would finance investments that enable the provision of basic services. This is a multisector project, but focus will be on WASH given its importance in addressing the COVID-19 crisis.

Selectivity, Complementarity, Partnerships:

7. Projects continue to be designed and implemented with strong donor coordination and burden sharing. The ongoing ECRP includes grants from the US Department of State (US\$24 million) and from the UK (US\$9 million). The EHNP is leveraging a contribution of £7 million from the UK, which has been channeled through the Global Financing Facility. This complements a US\$4.1 million allocation directly disbursed by the Pandemic Emergency Facility to WHO in August 2020. The World Bank and its implementation partners have submitted applications to the Global Partnership for Education (GPE) for the Education project to complement US\$100 million from IDA. The Global Partnership for Education (GPE) is expected to contribute to the Education project with a US\$58 million grant. More systematic co-financing of IDA will be sought through an umbrella MDTF which is under preparation and will become the single fundraising tool for the Bank's Yemen program.



8. The Bank is also continuing to diversify its partnerships and exploring options to work with other partners where they have a specific value added and demonstrate close involvement of local institutions. For example, the Bank is partnering with WFP and Save the Children on the Education project and exploring a potential partnership with ICRC on WASH and health programs.

9. While the IMF triggered its debt relief instrument, the CCRT, several donors such as the EU, the UK and Germany stepped up their emergency support to Yemen through various channels (UN agencies, Yemen Humanitarian Fund, INGOs etc.). Financing was primarily targeted to the health sector, as well as resilience and livelihoods programs. UNDP took the lead in adapting the UN's global Socio-Economic Response Plan to Yemen's needs through consultations conducted jointly with the World Bank. Extensive information sharing and coordination took place through the World Bank-led Development Partners Forum.

10. The proposed project will contribute to the Bank's COVID-19 response in Yemen by: (i) supporting development or restoration, as the case may be, of agricultural value chains, functioning of which has been disrupted by COVID-19, and ensuring that food products reach markets under Component 2; (ii) ensuring that population in the project area have disposable incomes to spend on procurement of food items through its Cash-for-Work program under Component 1; and (iii) integrating COVID-19 awareness and preventive measures in the training events and awareness campaigns planned for project beneficiaries. Awareness raising and training events will follow COVID-19 precautionary measures and provide beneficiary households with awareness and hygiene materials (such as masks, hand sanitizers and other relevant consumables).



ANNEX 2: Implementation Arrangements and Support Plan

COUNTRY: Yemen, Republic of Yemen Food Security Response and Resilience Project

IMPLEMENTATION ARRANGEMENTS

1. **The project would be implemented by three UN agencies, FAO, UNDP and WFP, allowing for an operational reach that would be difficult to achieve otherwise.** First, partnering with UN agencies allows the project to reach more conflict-affected areas where vulnerability and needs are high. Second, UN agencies have demonstrated their ability to operate continually in volatile situations. Third, it will allow the Bank to leverage UN agencies' existing in-country capacity, technical expertise, respective mandates, presence on the ground, and existing relationships with various stakeholders. Fourth, the partnership allows the Bank to seek synergies with other UN-supported programs and make a greater impact.

2. **Each UN agency will implement part of the project within the scope of their mandate and based on their relevant experience:**

- (i) **FAO** is the specialized UN agency responsible for and well positioned to respond to emergencies in agriculture and food security, including crop and food supply monitoring and needs assessments, evaluations of agricultural relief requirements, and mobilizing assistance and resources to restore agricultural activity. The FAO has prior experience in supporting the implementation of Bank-financed projects on the ground in Yemen (since 2017 it has led the implementation of SAPREP toward satisfactory achievement of results and more recently it became the Implementing Agency for the Desert Locust Response Project; P174170). SAPREP, in collaboration with SFD, has supported a set of similar activities, including CFW, support to agricultural production by providing input kits and ensuring access to associated services (such as animal health services). The project's implementation performance rating is *Satisfactory*. Given their prior experience in implementing SAPREP, FAO is fully aware of the Bank's fiduciary and ESF requirements. FAO has put in place enhanced M&E mechanisms to supervise local implementation partners and has also been using TPM.
- (iv) **UNDP** is the UN's development program and it is committed to supporting the peacebuilding initiative in Yemen, political stability and enhanced local governance. UNDP has built a successful partnership with the World Bank in implementing the CFW activities of the ECRP. UNDP is partnering with the SFD and PWP and their community networks to deliver services. Given their prior experience in implementing the ECRP, UNDP is fully aware of the Bank's fiduciary and ESF requirements. UNDP has established an M&E system to ensure proper project management, assuring stakeholders and providing accountability and is also using a TPM mechanism to monitor project implementation. UNDP communicates with the World Bank team monthly on project implementation and to address emerging challenges. UNDP had a good collaboration with FAO on water resource management, aimed at enhancing access to water in agriculture and improving the effective use and management of scarce water resources in Yemen.



- (v) **WFP** is the food-assistance program of the United Nations and is the world's largest humanitarian organization, the largest one focused on emergency food security crisis response, and the largest provider of school meals. In Yemen, in addition to food and nutrition interventions, such as school feeding programs, WFP is also engaged in livelihoods development activities through a range of instruments, including Food-for-Assets and Food-for-Training in close cooperation with FAO. WFP's vulnerability, mapping and assessment (VAM) expertise conducts joint nation-wide food security and livelihood assessments which inform the Integrated Food Security Phase Classification (IPC) for Yemen, as well as regular food security and price monitoring and analysis. WFP is an existing Implementing Agency under the World Bank-financed Restoring Education and Learning Project (P175036), engaged in school feeding activities, and it has therefore some exposure to the Bank's fiduciary and ESF requirements.

3. **The Country Representation Offices of the three UN agencies will be responsible for the overall implementation of their respective activities and coordinating all relevant activities at the sub-national level, supported by the regional office staff who will monitor the activities in different governorates.** The FAO will be the lead agency for the implementation of the project and will be a recipient of both IDA and GAFSP financing. Both UNDP and WFP will receive IDA financing. Each UN agency will be responsible for the technical implementation of the relevant components and sub-components (as indicated in the PAD), as well as all fiduciary, environmental, and social aspects, monitoring and reporting. The UN agencies will help ensure financial and technical accountability of the implementing partner organizations (such as SFD, SMEPS and PWP) and ensure appropriate training and capacity building of the staff of the implementing partner organizations. The FAO will establish and maintain a Project Coordination Unit (PCU) based in Sana'a, and technical staff deployed in its Aden sub-office and other decentralized hubs to ensure day-to-day project management, including all fiduciary, environmental, and social aspects, and monitoring and reporting. UNDP and WFP will assign dedicated staff to support project implementation, ensure timely and relevant contributions to the PCU work and provide timely monitoring and evaluation and reporting. This PCU structure builds on the experience with previous grants implemented by FAO in the country. Moreover, the UN agencies' teams in Sana'a are backstopped by dedicated teams of technical experts at regional and headquarters level, as the case may be for the different UN agencies, in line with the Level 3 fast-track procedures established due to the emergency situation in Yemen.

4. **Coordination.** The three selected organizations are currently working in Yemen and exchanging information as part of their participation in partner meetings. The three UN agencies will set up a formal project coordination committee for increased efficiency and efficacy. This committee will hold meetings on a regular basis (monthly) to best coordinate their activities, evaluate progress, address bottlenecks and consolidate annual work plans. The frequency of meetings, attendance, communication tools and other details will be described in the POM. The agencies will prepare and maintain a jointly agreed co-ordination activity matrix with delineated activities, responsibilities by implementing agency and timeline, to ensure smooth co-ordination in project implementation. Collecting and reporting on indicators (including methodology, tools, devices, etc.) to inform the results framework and progress on implementation will be discussed and agreed among implementing partners with the support of the Bank. A mechanism will also be established to brief the authorities at local, governorate and national on a regular basis on the project results and progress with implementation.

5. **Local partners with prior extensive experience in implementing similar projects will have key implementation roles. The PWP and SFD would play a key role as the local implementing partners for Component 1, and SFD and SMEPS for implementation of small-scale value chain activities, provision of**



technologies and practices for some horticulture crops and restoration of agriculture inputs under Component 2, alongside FAO. The SFD and PWP are the key local partners in implementing the ongoing ECRP and DLRP, and they would lead the implementation of Component 1, and the SMEPS would contribute to the value chain development under Component 2. The selection of national institutions for these roles would contribute to building national capacity for community-based interventions. For activities that would be implemented by the national institutions, the UN agencies would provide technical guidance and backstopping as required.

- (i) **Under the CFW program of Component 1, SFD will be in charge of working with beneficiaries on the cash component, as well as of restoring climate smart agriculture and value addition under Component 2.** The Agriculture and Rural Development Unit (ARDU) which will be the SFD's structural unit in charge of the implementation of the relevant project activities on behalf of SFD under Component 1, are located in SFD's central office in Sana'a, while the branch offices of SFD would provide support and coordination in their own governorates. Additional personnel will be recruited to cover any skills or human capacity gaps, as assessed during project preparation. All staff are required to have satisfactory expertise, experience, and qualifications. SFD has strong capacity and experience spanning over 20 years in undertaking participatory and community-based development activities involving women and men from local communities.
- (ii) **PWP, under Component 1, will focus on activities related to small-scale infrastructure works to be carried out by local contractors in cases when the infrastructure projects are more complex.** The PWP Headquarter in Sana'a will be the office in charge for implementing activities under PWP through their own 10 Branch/sub-area offices in various governorates. PWP has long experience in their areas of responsibility under the project, spanning 20 years, and well-qualified staff with specialized skills in implementing locally and externally financed projects. Additional personnel will be recruited to cover any skills or human capacity gaps, as assessed during project preparation. All staff are required to have satisfactory expertise, experience, and qualifications.
- (iii) **SMEPS will work under Component 2 to ensure technical assistance to the value chain development activities.** The management unit in SMEPS central office in Sana'a will provide overall management and support to the project, while the branch offices will implement the field activities, and provide support and coordination for project activities. Each branch consists of a branch manager, a programs and projects unit which includes Communications & Advocacy, Monitoring, Evaluation, Accountability and Learning (MEAL) and a Procurement Unit, a Finance Unit and Administrative Services which are responsible for the implementation and monitoring of all activities in the field. SMEPS is well known for its skilled and well-experienced staff. Similar to the other two national institutions, SMEPS will recruit additional personnel to cover any skills or human capacity gaps, as assessed during project preparation. All staff are required to have satisfactory expertise, experience, and qualifications.

6. **Project Operations Manual (POM).** A detailed POM for all project components and a separate CFW Transfer Manual will be prepared by effectiveness. The POM and the CFW Transfer Manual will be subject to the World Bank's no objection, and both the POM and the CFW Transfer Manual are project's effectiveness conditions.

7. **Financial Management and Procurement arrangements.** The project's financial management (FM) arrangements will be governed by the Financial Management Framework Agreement (FMFA) between the World Bank and the UN agencies, which provides for the use of the UN's Financial Regulations. For procurement, the UN



agencies will follow its own procurement procedures as Alternative Procurement Arrangements, as provided under the World Bank New Procurement Framework Policy Section III. F. These implementation arrangements are sound, since the procurement procedures of the UN agencies were assessed and found acceptable to the World Bank under agreements with UN agencies.

8. **Implementing partners will prepare budgeted Annual Work Plans** of implementation and a detailed procurement plan (in agreement with the World Bank). This budgeted Annual Work Plan will be prepared no later than four months after project effectiveness. It will highlight the activities to be implemented for the subsequent 12 months by component and sub-component with intended results, timeline, budgets and planned procurement activities. It will also identify issues / implementation bottlenecks and relevant remedial actions and outline key responsibilities. In the context of COVID-19 and virtual missions (video/audio), the budgeted Annual Work Plan will be the common communication interface between implementing partners and the World Bank to regularly monitor activities of each component, evaluate progress and discuss corrective actions or changes as needed.

MONITORING AND EVALUATION

9. **The UN agencies will be responsible for coordinating project monitoring activities for their respective Components and Sub-components.** The objectives of the M&E system are to measure input, output, and outcome indicators to provide project staff and stakeholders with regular information on project implementation and outputs, identify potential problems, and determine to what extent the project is achieving its development objectives. The M&E methodology will be aligned with the definitions and collection methodologies of the project to enable data aggregation and consolidation at the project-wide level. As an integral part of project implementation, the M&E system will be designed to provide timely and reliable results for management to facilitate informed decision-making. In addition to being an important management tool, the M&E system will be a valuable source of learning and a knowledge management mechanism. Given that the activities under the project in several cases are similar to those already undertaken by the UN agencies, the UN agencies may build the project's M&E system on the basis of their existing M&E systems.

10. **Monitoring and evaluation will be based on the collection and reporting of data on the PDO and intermediate indicators** (see the Results Framework (RF) for a full description of these indicators). The results will be presented to the Bank in semi-annual progress reports as well as the Mid-Term Review (MTR) and final independent evaluation reports. A baseline survey will be conducted in the project areas. Additional surveys will be held at the MTR stage and project completion. For their respective activities, the UN agencies and National Institutions will use the detailed data collected through the standard reporting formats for different levels and other relevant documentation, including formats for mobile team reporting and integrated outreach reporting on all interventions. At each UA agency or National Institution hub office data will be collected and reviewed before it is consolidated at the central level by the relevant UN agency. In addition to the results, which will be reported as part of the formal Results Framework indicated in this PAD, each agency will collect additional data as needed.

11. **In addition to regular M&E activities, each UN agency will hire an independent TPM Agency (TPMA) through to assess quarterly performance and field monitoring of project implementation.** The TPMA will be expected to: (1) track performance through the collection of appropriate and credible data and other evidence; (2) analyze evidence to inform decision-making by World Bank and UN agency management; (3) recommend improvements in effectiveness and efficiency as necessary; and (4) report on performance and lessons to facilitate learning and support accountability, including learning from beneficiaries' experience. Data collection, analysis



and reporting will be carried out in a sex-disaggregated way. The terms of reference (TORs) for the TPMAs will be subject to a technical review by the World Bank. Where existing TMP arrangements are in place (such as all UN agencies have existing TPMAs already), the existing arrangements will be adopted for use under the project. The TPM reports will be shared by the UN agency with the World Bank immediately upon their receipt from the TPMA or after the UN agency's review, no later than three business days from the date of receiving the TPMA reports as the case may be for the various agencies, to enable concurrent supervision and timely assessment of project implementation.

12. **Additional research to inform food security response mechanism design in FCV context.** The project aims to carry out additional research to assess the effectiveness and efficacy of the activities supported by the project in addressing short, medium and long-term food security. Specifically, the research would analyze the activities, response mechanisms and results achieved under Component 1, 2 and 3. The research carried out through a collaborative process would emphasize capacity building for government partners in understanding the efficacy of specific response mechanisms, the role of project evaluation and interpreting and communicating the evaluation findings in support of evidence-based policy. It would also contribute to informing the overall IDA's FCV agenda and GAFSP. The knowledge gained from these evaluations will be valuable for fine-tuning project implementation and potentially informing scaling up of this project or others, as well as strengthening the quality of reports on project impacts. The analytical work would be led by IFPRI researchers with experience in multiple impact evaluations in Yemen and will be coordinated by FAO and financed from the project funds allocated to FAO. Additional details on the proposed research are presented below and will be included in the POM.

SUPPLEMENTARY M&E AND POLICY WORK

13. The project will work with IFPRI to: (i) strengthen the monitoring of impacts of the project activities on the ground; and (ii) assess the suitability of the project activities for the broader FCV environment. This additional M&E work will be done under Components 4 and 5, assessing the effectiveness of activities under Component 1 – 3. The work will be carried out in close collaboration with the three UN agencies and, although contracted by FAO, all three UN agencies will have an opportunity to provide inputs to the Terms of Reference for the below work.

Component 4: Capacity building for food security management

Activity: Assist the GOY to develop an evidence-based Food Security Preparedness Plan (FSPP)

14. This will be placed in a broader context of the ongoing concurrent work of developing a roadmap for Yemen's agriculture sector development, which is being undertaken by the Ministry of Agriculture and Irrigation (MAI) in collaboration with FAO and IFPRI. IFPRI will build on its previous experience in supporting Yemen to develop the national food security strategy (NFSS) and investment plan in 2009/10; several model-based assessments, for example of the global food crisis on Yemen, the impact of energy subsidy reform and the impacts of COVID-19, among others; and various capacity building activities on building a digital agricultural database, construction of social accounting matrices and economic modeling.

15. Specifically, IFPRI will contribute to the development of the new policy and investment framework through the following activities:



- **Foresight scenario analysis:** By updating/adopting its computable general equilibrium (CGE) model, IFPRI in collaboration with stakeholders will define possible alternative futures for Yemen in a participatory way. These futures will be designed based on alternative policy options, pathways for food production and consumption, food imports and exports, and alternative assumptions on the Yemeni economy. Results on a range of possible futures will help to justify and inform the new policy framework.
- **Investment prioritization:** Deploy/expand the Agriculture Investment Data Analyzer (AIDA), to assess the impacts of agricultural investments on the economy, jobs and households. By going beyond the traditional (project-based) assessment of costs and benefits (CBA), such economy-wide CBA analysis provides the “development” case for agricultural investments. This evidence-based costing will contribute to the agricultural investment framework and help support the argument of the important role that the agri-food system can play for Yemen’s post-conflict development.
- **Analytical capacity:** IFPRI will continue its efforts to build the analytical capacity of Yemeni institutions and individual from ministries, statistical agencies, universities, and other relevant partners in policy and investment analyses. These will include the updating of databases (social accounting matrix), microsimulation modules and the CGE model. This activity will enable MAI and other key partners to effectively use the policy and investment tools described above in order to provide continuous evidence to the dynamic policy and investment decision making process in Yemen.

Component 5: Project Management and Knowledge Management

Activity: Carrying out an additional impact assessment to assess the suitability and impact of project interventions in FCV environment

16. This subcomponent supports project evaluation of the subprojects and investments described in Components 1 and 2 as part of an ongoing feedback and learning process in partnership with the Government of Yemen. This collaborative process will emphasize capacity building for government partners in understanding the role of project evaluation and interpreting and communicating the evaluation findings in support of evidence-based policy. The knowledge gained from these evaluations will be valuable for fine-tuning project implementation and potentially informing scaling up of this project or others by similar donors, as well as strengthening the credibility of reports on project impacts. The subcomponent will be led by IFPRI (International Food Policy Research Institution) researchers with experience in multiple impact evaluations in Yemen.

17. The learning agenda will consist of three evaluations corresponding respectively to Components 1, 2 and 3 of the project as well as related dissemination and capacity building efforts.

a. Evaluation related to component 1

18. This evaluation will focus on identifying the key factors that are associated with successful expansion of agricultural production through construction of publicly supported infrastructure.

Motivation

19. The land protection and watershed protection related interventions (dikes, terrace rehabilitation, well and spring rehabilitation, and on-farm water harvesting) planned in component 1 are inherently highly



heterogenous, as their implementation depends on specifics of local geography. An important commonality, though, is that the success of these interventions at increasing agricultural productivity depends on the degree to which smallholder farmers are willing to make complementary investments (in agricultural labor and other inputs), as well as the degree to which communities can solve collective action problems related to the choice of infrastructure project, infrastructure maintenance and water management. The evaluation will identify household and community characteristics that predict greater community and farmer investment in expanded agricultural production and greater community satisfaction with constructed infrastructure.

20. As supporting household food security is also a primary goal of this intervention, a panel of randomly selected households from the communities will also be identified and contacted in regular phone surveys to track trends in food security in treated communities relative to Yemen as a whole.

Methodology

21. The evaluation will include two rounds of panel household and community data collection from a sample of communities with temporary employment creation in land and water interventions. The data collection will include a survey about agricultural practices, productive assets, and household and community characteristics. In addition to survey-based data collection, the evaluation will use incentivized experimental games to measure hidden characteristics such as risk aversion, present bias, and cooperativeness. Local consultants will be trained to collect the game-based data. The primary outcome variables to be measured will be indicators of farm level investments in agricultural production and maintenance at least 2 years after the intervention, taken both from survey data and direct observations as well as perceived impacts of the intervention.

22. Focusing on complementary inputs as the main outcome variable rather than agricultural production itself simplifies the evaluation by avoiding the challenge of separating out the influence of other shocks to production such as unexpected changes in rainfall, prices, or market access.

23. A dose response model exploiting variation in cash payment timing and amount will be used to estimate the impacts of the increase in household incomes through the cash-for-work program based on the phone survey data. Data collection will use computer assisted personal interviewing (CAPI) technology on tablets or mobile phones allowing for remote real-time monitoring of the data collection by researchers. This approach has been used successfully by IFPRI researchers in two recent impact evaluations in Yemen (Kurdi et al, 2019; Bertelli et al, 2019).

Expected Policy Lessons

24. The evaluation will help the project and the Government of Yemen in identifying ways to improve the targeting both within this project and for other similar interventions. Previous evaluations related to water and land infrastructure improvements in Yemen found that community management and maintenance is highly variable and relates to both to the availability and distribution of the project benefits (de Janvry et al. 2013; Christian et al. 2015). The evaluation is expected to identify tradeoffs between targeting interventions to benefit the neediest and maximizing agricultural income. Specific questions the evaluation will help to answer include:



- Which types of land and water intervention inspire the greatest increases in agricultural production effort and complementary investment? What community characteristics best predict successful implementation and community satisfaction with the intervention?
- How successful is the Cash-for-Works program at alleviating food security needs in the short term in the context of the conflict?

b. Evaluation related to Component 2

Motivation

25. The value chain-chain and farmer field school interventions in this component are primarily focused on improving production levels and value. This evaluation will focus on the farm as the unit of analysis and inform the calculation of the outcome indicators for component 2 (increase in average volume of food/ agricultural products produced by beneficiaries and increase in the average volume of food/ agricultural products commercialized/ sold by beneficiaries). Because of the high levels of risk and uncertainty in the conflict setting, as simple before-after comparison of production by beneficiaries may not capture well the program impact. Analyzing the effects of conflict related shocks on production will also allow this evaluation to inform the broader FCV agenda.

Methodology

26. The evaluation will include cross-sectional data collection from a random sample of producers including both project beneficiaries and non-beneficiaries. Depending on the targeting methodology, an RD, instrumental variables, or propensity score matching approach may be used to compare production outcomes for beneficiaries and non-beneficiaries while controlling for a wide variety of external shocks that may impact production. Data collection will use CAPI technology allowing for remote real-time monitoring of the data collection by researchers.

Expected Policy Lessons

27. The evaluation will help the project and the Government of Yemen in understanding how to adapt agricultural interventions to the challenges of operation within conflict-affected setting. Specific questions the evaluation will help to answer include:

- How successful are input packages, training, and support offered in this component at increasing agricultural production?
- Which interventions or value chains are more resilient to the impact of conflict-related, and weather and pest related shocks?

c. Evaluation related to Component 3

28. This evaluation will examine the benefits of overlapping interventions from Component 2 on household food consumption patterns and nutritional status. It will also allow for understanding of how combining



interventions to increase food availability with nutrition education such as the ECRP cash-for-nutrition program and the sub-components in component 3 greater impacts on nutrition than cash and training provision alone.

Motivation

29. Food security and child nutrition are critical issues in Yemen where it is estimated that 2 million children suffer from acute malnutrition (UNOCHA 2018). A recent evaluation by IFPRI showed that nutritional training sessions for mothers of young children coupled with cash transfers significantly improved dietary quality, child feeding practices, and nutrition outcomes (Kurdi et al, 2019). This evaluation will build on those previous findings to examine how nutrition sensitive agricultural interventions can build on cash transfers to improve food consumption patterns.

Methodology

30. The identification strategy used for impact estimation will need to be developed with some flexibility depending on consultation regarding the timing of rollout and targeting mechanisms but may employ randomized encouragement designs for take-up of training interventions and/or exploit quasi-random variation in implementation timing in various communities.

31. The primary outcomes considered will be measures of market food availability and prices, household and individual food consumption and dietary diversity. Data collection will use CAPI technology allowing for remote real-time monitoring of the data collection by researchers.

32. The evaluation will include household and community data collection from a sample of communities with one or more interventions from this component combined with more frequent phone survey data in order to exploit variation in program timing.

Expected Policy Lessons

33. The evaluation findings will help to situation the role that agricultural recovery can play as part of the humanitarian response in a long-term crisis. The interaction between nutrition education and other interventions has been identified as a gap in the global evidence base on how to address child malnutrition in humanitarian crisis contexts (Prudhon et al. 2018). Demonstrating the extent to which there are synergies between multiple coordinated components also has important policy implications for Yemen and in emergency contexts more broadly, as there are multiple humanitarian and development actors working on different interventions which are often poorly coordinated. Specific questions that the evaluation will help to answer include:

- How does the cost/benefit ratio of agricultural training interventions compare to cash transfers or food distribution alone for increasing household food security?
- Does promotion of nutrition-sensitive value chains combined with nutrition education improve child feeding practices more than nutrition education and education alone?
- How does the involvement of female beneficiaries in training and agricultural production activities affect measures of women's empowerment such as women's role in intrahousehold decision-making?



d. Dissemination and capacity building

34. The knowledge gained from the learning component of this project contributes to the global development literature, but more importantly also has immediate policy implications for the Government of Yemen in making choices about how to allocate scarce resources. Partners in the Government of Yemen will therefore be actively engaged throughout the process of planning the evaluations and drawing policy lessons from the findings. Such engagement will take the form of active communication on preliminary findings with close partners in the government as well as broader dissemination of research findings through policy briefs and a conference to present the results.

IMPLEMENTATION SUPPORT PLAN

35. **The Implementation Support Plan (ISP) is adapted to the design and risk profile of the project.** All implementing entities, both UN agencies and National Institutions, have extensive technical and project management experience in their respective areas and have capacity to implement the project satisfactorily (at a minimum). However, the complex operating environment has heightened the risks and complexities associated with implementation. As a result, the World Bank will carry out three implementation support missions every year at least for the first two project implementation years, instead of the usual two missions.

36. **While the UN agencies are responsible for overall project implementation, including the project's technical aspects, the mandate of World Bank implementation support includes:** (i) assessing implementation progress and achievement of results on the ground through reviews of progress reports by the three UN agencies and the TPMAAs, as well as SFD and PWP and SMEPS for Components 1 and 2, and regular implementation support missions; (ii) proactively raising and assisting with solutions to any emerging issues before they become critical problems; and (iii) between missions, following up on monitoring and reporting on implementation progress and achievement of results. It is expected that there will be three implementation support missions a year during the first two years of the project implementation and twice a year afterwards.

37. **A Mid-Term Review (MTR) mission will be conducted around 24 months into the project implementation to assess progress toward achieving the PDO, identify challenges and any changes needed, including possible changes to the implementation of the project.** No later than six months before the expected project closing, an Implementation Completion and Results Report (ICR) Review mission will be organized to carry out a comprehensive assessment of the project and draft the World Bank ICR, as well as to guide the UN agencies in the preparation of its ICR.

38. **Fiduciary aspects of project implementation** will be reviewed and advised on as part of the implementation support missions, as well as on an ad hoc basis as issues arise. In particular, fiduciary issues identified under the project preparation will be monitored during the implementation of this project.

39. **Social and environmental aspects.** Supervision will place particular emphasis on ensuring that social and environmental risks are adequately monitored and addressed in a timely way, should issues arise. World Bank Environmental and Social Specialists will participate in all implementation support missions, as well as provide guidance on an ad hoc basis.



40. The ISP focuses on actions that the Bank will perform and on associated needs in terms of skills and resources. Given the multisectoral nature of the project, successful support and monitoring of implementation will require a multidisciplinary set of technical specialists along with fiduciary and environmental and social specialists. It is expected that a core group of the Bank’s technical experts will help to provide regular guidance and implementation support, with outside experts mobilized as needed. As noted, it is also expected that during the first two years of project implementation, more frequent implementation support missions (three times a year) may be required; it is estimated that two missions a year may be sufficient for the remaining project implementation period.

Main Focus of Implementation Support

41. Implementation Support Plan and Skill Mix: See Table 6 below.

Table 6: Focus of Implementation Support and Skills Required for the Yemen FSRRP

Time Needed	Focus	Skills
0-3 months	<ul style="list-style-type: none"> Baseline survey Hiring of the necessary staff and procurement of equipment and inputs Initiate specialized food import procedures M&E system design 	<ul style="list-style-type: none"> Core task team, including FM, Procurement, Environmental and Social and M&E Health specialist, as needed
4-24 months	<ul style="list-style-type: none"> Advancing implementation in all components, in particular productive kits, CFW, nutrition support activities Engagement with IFC and private sector participants on value chain building activities Development of the EO tool Preparation of the preparedness plan Initiate the alternative agriculture production system pilots Safeguards supervision Establish arrangements for the additional policy research Implementation Completion Report for the GAFSP COVID-19 financing M&E and TPMA engagement Initiate the studies on the fisheries and transport sectors Midterm evaluation of the project 	<ul style="list-style-type: none"> Core task team, including FM, Procurement, Environmental and Social and M&E Climate change economist (agriculture) ICT expert Fisheries, water, transport, health specialists, as needed
25 -42 months	<ul style="list-style-type: none"> Implementation of MTR recommendations on project management systems including fiduciary, ESF, and M&E Technical adjustments of project activities Safeguard supervision M&E and policy research activities Advancing implementation in all components, in particular productive kits, CFW, nutrition support activities Engagement with IFC and private sector participants on value chain building activities Continued development of the EO tool Alternative agriculture production system pilots Critical stocktaking of available resources for successful project completion 	<ul style="list-style-type: none"> Core task team, including FM, Procurement, Environmental and Social and M&E Climate change economist (agriculture) ICT expert



Time Needed	Focus	Skills
43–50 months	<ul style="list-style-type: none"> • Completion of all technical activities under the project • Completion and dissemination of the policy work results • End-term evaluation and project ICR 	<ul style="list-style-type: none"> • Core task team, including FM, Procurement, M&E • ICT expert • Climate change economist (agriculture) • Fisheries, water, transport, health specialists, as needed

42. **Skill mix.** Table 7 proposes the skill mix and team composition for supporting project implementation.

Table 7: Team Composition and Skills to Support Implementation of the Yemen FSRRP

Skills Needed	No. of Staff Weeks/Year	Number of Missions *	Comments
Task team leader/Agriculture	10	Three in the first two years and two onwards	International staff
Agricultural Specialist	10	Three in the first two years and two onwards	Staff in the country office/international
Procurement Specialist	3	Three in the first two years and two onwards	Staff in the country office/international
FM Specialist	3	Three in the first two years and two onwards	Staff in the country office/international
Social Safeguards Specialist	5	Three in the first two years and two onwards	Staff in the country office/international
Environmental Safeguards Specialist	5	Three in the first two years and two onwards	Staff in the country office/international
Climate Change Economist (agriculture)	4	Three in the first two years and two onwards	International staff
IT specialist	4	Three in the first two years and two onwards	International staff
Water Resource Specialist	3	Three in the first two years and two onwards	Staff in the country office/international
Health Specialist	2	One in the first year	International staff
Fisheries Specialist	3	One to two in the first two years	International staff
Transport Specialist	3	One to two in the first two years	Staff in the country office/international

* Technical missions will supplement the regular implementation support missions as needed.



ANNEX 3: Detailed Project Design

COUNTRY: Yemen, Republic of Yemen Food Security Response and Resilience Project

PDO Statement

1. The Project Development Objective is to improve the availability of and access to food and nutritious diets, both in the short and medium term, for targeted households in the Project Area, and to enhance Yemen's capacity to respond to food insecurity.

PDO Level Indicators

2. Progress toward the achievement of the PDO will be measured by the following outcome indicators:

Outcome 1: Access to and availability of food and nutritious diets at household level improved

- Percentage of households (HH) with improved Food Insecurity Experience Scale (FIES), of which female-headed households.
- Percentage of women in beneficiary households with minimum dietary diversity.
- Percentage of children (6-23 months) consuming minimum acceptable diet.
- Increase in the volume of agri-food products commercialized by beneficiaries, of which by female beneficiaries.

Outcome 2: Country capacity to respond to food insecurity strengthened

- Preparedness to respond to food security crises improved, through the adoption of the food security preparedness plan and the use of the EO monitoring tool.

B. Project Components

3. **Component 1: Improving household incomes through CFW for agricultural production infrastructure and building climate resilience (US\$20.0 million, including US\$5.0 million from GAFSP and US\$15.0 million from IDA).** This Component will be implemented by UNDP. This component would ensure immediate access to food for an estimated 18,800 food-insecure households (26,500 individual beneficiaries) by creating temporary employment opportunities (*Sub-projects*) through a Cash-for-Work (CFW) program, focusing on restoration of public/collective previously dilapidated productive assets, including those affected by the recent floods. The restored productive assets will be energy-efficient and climate-resilient to avoid future destruction from floods that frequency is increased because of climate change. UNDP will implement this component through the Social Fund for Development (SFD) and the Public Works Project (PWP). The SFD will take the lead in implementing the CFW program, which will provide employment opportunities directly to beneficiary laborers from the communities in the project area. The PWP will implement small-scale infrastructure-related works through selected locally sourced contractors which are also expected to create employment opportunities for the communities. Both organizations have extensive experience implementing their respective responsibilities under a number of other interventions, including under several Bank-financed projects. It is expected that 85 percent of



the component financing will be allocated for CFW activities, with the remaining 15 percent channeled through the PWP. The Component will finance the compensation for the beneficiaries, which will be estimated an average of US\$500 per household per six-month period, and the operating costs of SFD and PWP.

4. The activities to be implemented under this component would directly contribute to climate change adaptation and mitigate greenhouse gas emissions. The implementation of climate-resilient irrigation and water management practices will restore degraded lands (including terracing) and affected water infrastructure for subsequent productive, climate-smart technology use in agricultural production and allow beneficiaries to earn much needed income from their repair and maintenance through cash-for-work. It is expected that some 15,700 farmers will have improved access to water infrastructure, irrigation networks, rehabilitated lands and rehabilitated rural roads. Through increased carbon sequestration and improved water management, this activity will also contribute to climate change mitigation and adaptation.

5. The activities would include rehabilitation and maintenance of terraces, on-farm water harvesting facilities (underground cisterns and open wadi pits), watershed management/rainwater harvesting structures in mountainous areas (check dikes and gabions/retaining walls in wadi beds), spate irrigation works in lower mountains and foot-hills (small spate diversion canals, shallow wells and springs), irrigation canals and farm-level conveyance systems, rehabilitation of small rural access roads to isolated villages/communities. The locations for the CFW-supported investments will be determined in the selected project areas (districts), focusing on those most impacted by floods and other adverse events. The infrastructure investments will be determined in participatory consultations with the selected community representatives based on priority needs identified during periodic needs assessments.

6. In terms of CFW beneficiaries, after the community awareness-raising activities, SFD will prepare demand-based lists of beneficiaries, ensuring that the same beneficiaries are not engaged in parallel Bank-financed projects³⁹. This arrangement will ensure the transparency and availability of information to cross-verify the beneficiaries of each sub-component to spread the project's benefits across a greater number and wider range of beneficiaries. Each beneficiary will receive support for a period of six (6) months. The project would target and encourage youth (18 – 32 years of age) through the community outreach programs to participate in the CFW program. In addition to the indicated activities, many of which can be performed by women, the project would seek to support employment generation activities targeting women. Such additional activities would include childcare⁴⁰, meal preparation, weaving of fishing nets and making other tools necessary for the fishing trade and production. The SFD and PWP⁴¹ which have extensive prior experience in implementing the types of activities supported under this Component, would be the implementing institutions for this component. Capacity building of the communities, beneficiaries of the investments and CFW program as well as implementing institutions will be done in subsequent Operation and Maintenance (O&M) of the investments to ensure their sustainability.

7. **Component 2: Increasing production and sale of nutritious crop, livestock and fish products (US\$35.0 million, including US\$10.0 million from GAFSP and US\$25.0 million from IDA).** This Component will be implemented by FAO. The severity of the crisis has undermined the capacity of farmers, livestock producers and

³⁹ SFD is the main implementing agency for CFW components and sub-components under Bank-financed projects.

⁴⁰ The option of childcare as an income generating activity under component 1 would potentially be available to women being trained under component 3.

⁴¹ PWP will take the lead on supervision of small-scale infrastructure-related activities and the SFD will be responsible for the CFW program implementation.



fishers to invest in even small productive inputs and assets. The project would, therefore, allocate resources to provide key support for smallholders to invest in assets and help improve their capacity to commercialize their products and enter new markets. The Component would support: (i) climate-smart restoration of local food production to increase food availability to beneficiary households and in the local markets, and (ii) improved distribution and access to markets for food and high value cash crops (such as coffee), through value chain arrangements, to ensure increased incomes for the beneficiary households. The component will also address the damage and loss caused by the locust outbreak in 2020 which was exacerbated by climate change. The Component would collaborate with IFC in the development of selected high value agricultural value chains, building value chains between the project-supported farmers/agricultural producers and IFC's advisory services and investment clients (one such opportunity for a black sesame value chain has already been identified). The component is expected to, therefore, restore climate-smart agricultural production while also stimulating the local economy and promoting the production of food with high nutrient content (e.g., horticulture, pulses, meat (chicken and livestock), dairy and fish) by financing two types of intervention packages. Component 2 is expected to reach around 552,000 beneficiaries, including 77,000 with commercialization support and 475,000 with animal vaccinations.

8. **Sub-component 2.1: Restoring climate-smart agricultural production (US\$15.0 million, including US\$ 5.0 million from GAFSP and US\$10.0 million from IDA)** The Input Package will promote climate-smart agricultural production: smallholder crop farmer and livestock, honey and fish producer re-engagement in horticulture, crop and livestock farming, bee-keeping and in fish production. Producers would receive support needed to restart/expand production, including inputs starter packages for crops, animal feed, improved forage seeds, equipment and inputs to start fish farming, bee-keeping kits, farm equipment such as fodder choppers and small dairy equipment, energy efficient post-harvest handling and storage facilities. The Input Packages will be supported by training on complementary good agricultural practices and climate-smart practices to support diversified production and climate resilience—for instance, by introducing improved varieties and plantings and how to preserve and manage grasslands. The Sub-component will also provide extension support to producers, including training and advisory services through Farmer Field Schools (FFS) and advisory services to be supported under Component 4, on good agricultural practices, enhanced animal husbandry and feeding practices and climate-smart technologies. SFD, which has extensive prior experience in implementing the types of activities supported under this Component, will work alongside FAO to restoring and enhancing access to some agriculture inputs. The project would also strengthen access to supporting services to ensure maximum benefits from those assets, including extension support, veterinary services (including animal vaccinations) through CAHWs and GDAHWO, and technical support services.

9. Inputs for the productive Input Packages are expected to be procured locally, with FAO ensuring imports of items (inputs) not available on the domestic market. For example, animal feed and seeds are expected to be procured locally, while equipment (such as fodder choppers) are imported. Farmers will receive the productive kits as goods. Vouchers are expected to be used for seeds in areas where the authorities do not allow direct seed distribution. Vouchers will therefore be used in the areas where local markets are functional and can provide good quality seeds to potential beneficiaries. FAO will establish a selection and inspection committee to ensure the mapping of the input suppliers and an assessment of their capacity to ensure that good quality seeds are provided.

10. **Sub-component 2.2: Promoting value addition and sale of nutritious food products (US\$20.0 million, including US\$5.0 million from GAFSP and US\$15.0 million from IDA).** The second package of interventions (Value Addition Package) will provide in-kind grants (*Asset Transfer*) to support enterprising producers, processors and



traders to scale up, add value to their products, improve product quality and aggregation, consolidate production, and access local and regional markets with their products. The sub-component will work with the value chain participants to structure the value chain, provide training and technical and advisory support in technical aspects (aggregation, development of linkages with farmers, product quality and others), business skill capacity building, and provide beneficiaries with key assets (equipment, machinery and working capital) to enable beneficiaries to produce more and higher quality food products. The equipment and machinery provided under the sub-component will be energy-efficient and environmentally more friendly than conventional technologies. The project will also promote the use of renewable energy sources (photovoltaic). It is expected that most of the equipment and machinery will be procured, imported and distributed to the value chain/value addition beneficiaries by FAO. The value chain development support may also cover the beneficiaries who received support under the SAPREP and ECRP.

11. Given the food security focus of the project, the key value chains to be supported will include beans and cereals, vegetables, dairy, livestock and fish value chains for the local markets. To increase production, improve product quality, extend shelf-life, reduce food loss, and improve energy efficiency, the component will complement the Input Packages with providing grants for energy-efficient post-harvest enhancement and value addition activities (primary milk processing and preservation of vegetables, sour milk-making, vegetable oil extraction, etc.) under the Value Addition Packages. The component will also support selected high-value, high-growth potential commodity value chains (such as coffee, fruits and nuts, and poultry and eggs⁴²), which are estimated to allow higher employment generation and in turn increase household incomes, improve access to food, and allow for higher diversification of household diets. To ensure that the products are delivered to the market, as well as to create additional jobs, selected small-scale agro-logistics service providers may also be supported. The component will prioritize the adoption of climate-smart crop and livestock practices for reduced greenhouse gas emissions, enhanced resilience, and the implementation of livelihood support/diversification initiatives.

12. *Size of in-kind grants to value chain participants.* The size of the monetary equivalent of the in-kind grant allocations will depend on the type of the activity to be supported, as well as whether the beneficiaries will work as a group or as an individual. Larger-scale investments, such as seedling centers, post-harvest centers, hydroponics, dairy processing facilities, etc., will be implemented through groups of beneficiaries. The size of the groups will vary from 5 to 30 individuals according to the nature of the activity, none of the beneficiaries may be involved to receive similar support from other programs implemented by FAO or others development partners, and they will need access to/ownership of the key resource, i.e., access to land, ownership of animals, etc. For group beneficiaries, the upper value of the in-kind grants will not exceed US\$3,000 per beneficiary or a maximum of US\$70,000 per group. As an exception, for groups engaged in milk collection and dairy processing where construction of infrastructure is necessary, given the high start-up costs, the maximum value of the in-kind grant will not exceed US\$4,000 per beneficiary and a maximum of US\$120,000 per group. Concerning the individual beneficiaries who will receive support for activities such as beekeeping, poultry production, horticulture production and processing, food preservation, agro-logistics services and other income-generating value-addition activities, the grant will not exceed US\$2,000 per individual beneficiary. All in-kind grant financed by the project will be supported by a business idea description, description of the market, value chain arrangements and financial viability. The length of the business idea description will be commensurate with the size of the in-kind grant.

⁴² Based on the results of application of the Agricultural Investment for Development Analyzer (AIDA) model by the International Food Policy Research Institute (IFPRI).



13. Collaboration with IFC is expected under the value chain building activities, in particular for exports. To facilitate this collaboration, the component will develop two databases: (i) a database of farmer and fishermen beneficiaries who receive Inputs Packages (including information on the farm (crop, plot size, income, location), assistance provided (access to finance, equipment, seeds, fertilizer, irrigation, storage facilities), information on the animal assets and other relevant data); and (ii) database/mapping of processors / traders / aggregators / off-takers in Yemen focused on the value chains pursued under Component 2 that could be targeted for future IFC investments focused on product quality improvements, market access, consolidation and scaling up. SFD, which has extensive prior experience in implementing the types of activities supported under this Sub-component, will work alongside FAO to increase the farm-gate value and nutritional content of some agricultural products through provision of improved technologies and practices for key horticulture crops. For business development services and selected value chain development the project will also engage with the Small Micro Enterprise Promotion Service (SMEPS) which has prior experience of working under World Bank-financed projects. SMEPS will be working alongside FAO to ensure knowledge transfer regarding value chain development and support to build SMEP's capacity and ensure their future capacity to engage in similar activities.

14. To further review and strengthen opportunities for development and sophistication of value chains, the Sub-component will also finance studies in two areas: (1) A fisheries and aquaculture needs assessment and a fisheries and aquaculture stock assessment; and (2) agro-logistics constraints and solutions for selected value chains.

(i) **A fisheries and aquaculture needs assessment** will be carried out to identify the sector wide needs for rehabilitating marine capture fisheries and coastal aquaculture, and to develop an action plan to rehabilitate the marine fisheries production and develop coastal aquaculture sustainably. The assessment will include a fisheries and coastal aquaculture value-chain analysis (VCA). A VCA consists of the full range of actors from capture and production to consumption and their coordinated value adding activities that transform raw materials into food products. A value chain development approach is a holistic method, which examines all the elements, actors including formal/informal/men/women, their complex interlinked behavior, and their technical, economic, social and environmental performance in order to devise an upgrading strategy that will improve the sustainability impact of the chain. The assessment will also look into identifying the capacity needs of the stakeholders, such as the relevant government agencies, local NGOs, fishers cooperatives, fishers, and processors; an analysis of current fisheries infrastructure; and will identify opportunities for enhancing fisheries and aquaculture livelihoods particularly focusing at the local communities' level and contributing to Yemen's post conflict and post COVID economic recovery. The assessment will also include how to plan for geographical concentration of fisheries and aquaculture activities that could lead to a significant stimulus to growth on a local and national scale such as development of market systems and supporting institutions, and investment in infrastructure including cold storage and processing. In addition, the assessment will identify the safety nets that could be developed for fishers displaced, while ensuring livelihood sustainability and efficient access of fishery resources.

(ii) **A fisheries and aquaculture stock assessment** will provide further information on the local capture fisheries including the status of fish stocks to inform decision-making and design effective management plans for Yemen's fisheries. It will also carry out development of models for aquaculture carrying capacity to develop sustainable local community aquaculture initiatives. The assessment will include the ecological, social and economic performance of fisheries and test different management interventions. This component will also assess coastal and marine natural resources important to the fisheries sector in Yemen: fish stock, coastal



zone and marine ecosystems' health, biodiversity, etc. The analysis will take into consideration the vulnerability of key fisheries to climate change and analyze strategies for building climate change resilience in the rehabilitation of the fisheries and aquaculture sector.

(iii) **An agro-logistics study** will focus on identifying constraints of farmers and producers and other value chain participants to access markets while mainstreaming considerations of climate change adaptation and mitigation. The study would focus on two to three key value chains, at least one in the high lands and one in the lowlands. The study will formulate a range of policy reforms, technical assistance and investment options. Investment proposals may include improving market infrastructure, improving road links to markets and aggregation centers, creating the enabling environment for private sector players providing transport and logistic services, building climate resilience etc. The study will inform future scaling up efforts to improve food availability and is closely aligned with the current project objective.

15. Laboratory equipment for the University of Sana'a and University of Aden in support of animal value chains. Disease diagnosis and surveillance helps in providing early warning alerts on potential disease outbreaks to allow early response in control and prevention of livestock diseases which risk is exacerbated as a result of climate change. The Central Veterinary Lab in Sana'a and Aden do not have the capacity to provide livestock diseases early warning. The newly established Veterinary College at Sanaa University can fill gaps in disease surveillance, monitoring and reporting for agriculture sector needs. The project will provide institutional support through provision of veterinary laboratory equipment, reagents and other essential tools. In addition, the laboratory will enable veterinarians, veterinary students, veterinary technicians, and veterinary technician students to gain skills in diagnosis, sero-surveillance and reporting which will ensure sustainable practices. Similar support is to be provided to Aden University to increase its veterinary laboratory diagnosis, surveillance and reporting capacity. With this support, the quality and speed of laboratory diagnosis and reporting will ensure rapid detection and response enhancing veterinary services delivery in Yemen. This support is critical for sustainable animal production development.

16. **Component 3: Improving the nutritional status of vulnerable rural households (US\$49.3 million, including US\$7.5 million from GAFSP and US\$41.8 million from IDA).** Sub-component 3.1 will be implemented by FAO and Sub-component 3.2 and 3.3 will both be implemented by WFP. This component would aim to improve the nutritional security and and climate resilience of very vulnerable (Sub-components 3.1 and 3.3) and moderately vulnerable women-led (Sub-component 3.2) households through a variety of instruments, including: (i) targeted nutrition-sensitive agriculture activities and facilitating uptake by poor households of appropriate dietary and nutrition practices, in particular improving nutrient intakes of pregnant mothers and children under two, (ii) promoting women entrepreneurship activities and facilitating improvement in the diets of the female-led households, and (iii) improving nutrition in vulnerable households with women and children who suffer from malnutrition. The beneficiaries of the Component 3 may also include the Cash-for-Nutrition beneficiaries under the ECRP, to ensure that they receive support that would allow them to start own production of food or improve nutritious diets on more sustainable basis.

17. The component would establish linkages with nutrition assistance programs and safety nets in the project area, to make sure children with acute and moderate malnutrition can be referred to the existing treatment services. Criteria for targeting vulnerable households will consider established nutrition referral mechanisms and include children under-5 undergoing treatment for Severe Acute Malnutrition (SAM) or Moderate Acute



Malnutrition (MAM)⁴³, pregnant and lactating women (PLW) under treatment for MAM, and women/elderly headed households.

18. **Sub-component 3.1: Promoting kitchen gardens and backyard production for improved diets and climate resilience (US\$10.0 million, including US\$7.5 million from GAFSP and US\$2.5 million from IDA).** The Sub-component will be implemented by FAO and will target the households of beneficiaries that have received malnutrition treatment and prevention services referred to under Sub-component 3.3, former beneficiaries of Cash-for-Nutrition programs under the ECRP, households with pregnant mothers and children under two, and other eligible households of similar vulnerability level. The Sub-component will finance provision of inputs (vegetable seeds, chicken, etc.) for households to establish kitchen gardens and backyard production of nutritious food items (vegetables, eggs, and meat). The activity will also promote crop mix more suited to climate variability (drought, heat, pest and disease resistant). It is estimated that the sub-component will reach 20,000 beneficiary households. Beneficiaries would also receive two types of training: (i) to improve backyard production, they will receive training on good and climate-smart agricultural production practices; and (ii) to maximize the nutritional content of the utilized food, participate in sessions promoting adoption of appropriate nutritional practices and maximization of the nutritional value of foods in the preparation of family meals. Additionally, the project will use different communication channels to spread nutrition messages to trigger behavioral change in target population. Given that women are the main family caretakers, mostly women beneficiaries are expected to partake in these activities, however, the training will be open to both women and men.

19. **Sub-component 3.2: Promoting women rural entrepreneurship for improved nutrition (US\$14.3 million, all IDA).** The Sub-component will be implemented by WFP and will focus on promoting women entrepreneurship to generate higher income and improve food security and nutritious diets at the household level. WFP's resilience and livelihoods interventions will mainly target moderately food-insecure people to prevent them from slipping into further food insecurity. WFP will work with national NGO partners and provide Food for Training to food-insecure women, targeting in particular those who are heading their households in rural communities. The training will develop their skills with the aim to restore or to establish their livelihoods, and to start their own climate-informed businesses. In majority of cases, the duration of the support will be six to nine months (with the monthly payment of about US\$105 per individual), however, in some cases, the newly established businesses may receive support of coaching for up to two years. During this time, participants would have access to various trainings, such as skill development, business development and management, digital skills, entrepreneurship, improved nutrition and life-skills (e.g. health practices) all while they are supported by a monthly allowance. The activity will also provide awareness raising about the impacts of climate change.

20. Once trainings are completed, and a climate-informed business plan submitted and approved, the women would receive a start-up grant (*F4T Start-Up Grants*) to start diversified income generating activities (which could be of agricultural or non-agricultural nature). The grants will not exceed US\$800 per individual, with an average amount of grant of about US\$630. Increasing the productive capacity and livelihoods potential of rural women, especially in terms of agriculture and food production, will ensure that their food and nutrition security can be sustained after the end of the assistance period. Trainees will be encouraged to work together in joint business ventures, where suitable. WFP's comprehensive approach also includes training and support related to gender-based violence, awareness on the prevention of the spread of infectious diseases, child-care, nutrition and health practices. Increasing the productive capacity and livelihoods potential of rural women, especially in terms of

⁴³ Moderate Acute Malnutrition (MAM) is identified by moderate wasting: weight for height (WFH) < -2 z-score to and ≥ -3 z-score for children 0-59 months. Severe Acute Malnutrition (SAM) is identified by severe wasting WFH < -3 z-score for children 0-59 months.



agriculture and food production, will ensure that that their food and nutrition security can be sustained after the end of the assistance period. The duration of the training course and the subsequent coaching will vary from six months to two years. Participants will be encouraged to work together in joint business ventures with an estimated 3 (occasionally up to 5, based on the nature of the business) participants per business, although the number may vary based on the preferences of the participants and conditions for joint ventures in the targeted areas. Therefore, it is expected that around 7,910 women will participate in the training, establishing an estimated 2,637 businesses.

21. The income-generating activities can be of agricultural and non-agricultural nature, such as tailoring, embroidery, beekeeping, energy efficient food processing, incense- and perfume-making, hair-dressing, nurseries, home-grown gardens, food preservation, livestock and chicken breeding, biogas projects (where animal waste is used to generate energy), digital trainings and more. The program will also transfer technology, knowledge and know-how to female smallholder farmers and livestock breeders to improve their productivity, climate resilience, income, and access to markets, along with technical training on post-harvest procedures including best methods of making canned and dried produce. WFP will also support women livestock breeders in accessing equipment and tools through grants and dedicated advisers, with the view of revitalizing and expanding their businesses. All trainings will be developed based on assessments and market needs, in coordination with relevant local technical authorities. Options for child-care arrangements – during the training and beyond - would be explored in consultation with each of the local communities. To ensure the micro- and small businesses are sustained after the project's end, the program will facilitate linkages with existing market actors and associations, and where feasible, selling produce in WFP's voucher assistance outlets, connecting women to markets.

22. As women are disproportionately responsible for the health, nutrition and education of their children, WFP will also explore opportunities to assist a wider range of food-insecure rural women through training programs, promoting numeracy and literacy training, nutrition education, gender-based violence, awareness on the prevention of the spread of infectious diseases and other life skills, as a means to empower them and support their households. People living with disabilities and other marginalized groups will be deliberately included in the targeting of interventions.

23. *Beneficiary selection criteria.* It is a prerequisite in all cases that the participant has attended the training, and that their business plan has been approved. There will be two types of grants, one for individuals and one for groups as needed. The criteria for individual grants: (i) participant needs to be at least 18 years old; (ii) is a resident of the village targeted or had been residing in the village for at least 1 year; (iii) willingness and ability (physical and mental) to run the income generating activity; (iv) the grant beneficiary commits to participate in all required trainings and activities; and (v) the participant is considered among the poorest of the community and is currently unemployed, do not have a regular source of income or enrolled in other community development / general development projects including the general food distribution implemented by WFP. Criteria for group grants include: (i) group membership constituted of 3-5 members; (ii) group members are at least 18 years old and not living in the same household; (iii) willingness and physical and mental ability to make use of and maintain the assets provided by the organization to improve the livelihoods of the participants; (vi) group members are permanent residents of the targeted community or had been residing in the targeted community for more than 1 year; and (v) group members are considered among the poorest of the community and are not currently employed, they do not have a regular source of income or enrolled in other community development / general aids projects including the general food distribution implemented by WFP.



24. The assessment will be based on eligibility and suitability, with participation of the civil society. The community committees in each village will register the beneficiaries through the pre-determined criteria and participatory approach. In this case, moderately food insecure persons (and depending on the type, another criterion could be 'access to arable land'). The cooperating partner will be responsible to conduct verifications upon receiving the beneficiary list from the community committees, before the final selection.

25. **Sub-component 3.3: Provision of nutrition assistance to treat and prevent malnutrition (US\$25.0 million, all IDA).** This Sub-component will be implemented by WFP. This Sub-component supports pregnant and lactating women and girls (PLWG) and children under 5 years old with nutrition assistance to prevent acute and chronic malnutrition and treat moderate acute malnutrition. This activity constitutes an integrated malnutrition prevention and treatment response. WFP will provide specialized nutrition products through blanket supplementary feeding to children aged 6–23 months and PLWG to prevent acute and chronic malnutrition in districts prioritized for integrated famine response and targeted supplementary feeding to malnourished children aged 6–59 months and PLWG to treat moderate acute malnutrition across the country. Beneficiaries of targeted supplementary feeding will be screened in local health centers and community, through community health volunteers and screening campaigns organized by the Ministry of Public Health and Population (MOPHP), using mid-upper arm circumference (MUAC) and weight-for-height measurements. Beneficiaries will be discharged after an average stay of three months^[1] in the program, once they have reached a MUAC of >125 mm for children and a MUAC of >230 mm for women. WFP will design a communications strategy to ensure PLWG and household members receive sufficient information on the use and benefits of specialized nutrition products.

26. The specialized nutritious foods that WFP uses such as Super Cereals (a wheat soya blend flour) and ready-to-use Lipid based Nutrient Supplements, have optimal energy and micronutrient profile hence are also useful to prevent micronutrient deficiencies. The Lipid based Nutrient Supplement Medium Quantity (LNS-MQ) are used under the WFP's nutrition treatment program for acutely malnourished pregnant women and children under the age of five, while Lipid based Nutrient Supplement Small Quantity (LNS-SQ) are used under the preventative nutrition program for children under the age of two. Moderately acutely malnourished PLWGs also receive a monthly 6 kg take-home ration of fortified blended flour – Super Cereal – for treatment from the beginning of the second trimester of the pregnancy until the child is six months old. The ration of Super Cereal for PLWG under the prevention component will be implemented with 100g per person per day in line with global standards.

27. This activity will be implemented in line with national protocols and in close collaboration with the Ministry of Public Health and Population MOPHP and nutrition cluster partners concerned with severe acute malnutrition, including UNICEF and the World Health Organization (WHO). Implementation will be supported by several NGOs. WFP will enhance the capacities of local partners and the MOPHP by providing equipment and supplies and training community volunteers, nutrition coordinators and health center staff on the community-based management of acute malnutrition, food storage management monitoring and reporting. All training will include gender considerations.

28. This Sub-component is expected to be implemented in calendar year 2021 and in the early part of calendar year 2022. WFP will maintain the current scale of malnutrition treatment and prevention services, in line with the needs confirmed in recent SMART⁴⁴ and IPC assessments and agreed by the nutrition cluster. During the project period, around 214,000 beneficiaries are expected to be reached through the Treatment Program, including

^[1] The treatment for children is 3 months and for PLWG it is 6 months.

⁴⁴ Standardized monitoring and assessment of relief and transitions.



164,000 acutely malnourished children under the age of five and 50,000 acutely malnourished pregnant and lactating women and girls, as well as around 304,000 beneficiaries through the Prevention Program, including 164,000 children under the age of two and 140,000 pregnant and lactating women and girls.

29. **Component 4: Capacity building for food security management and climate resilience (US\$6.0 million, all IDA).** The implementation of this component will be led by FAO, in cooperation with other partner organizations as described below. This component would include four main activities, which are expected to significantly strengthen the capacity and climate resilience of both the private (households) and public sectors for food security crisis planning and response:

(a) Development of an evidence-based and climate-informed Food Security Preparedness Plan (FSPP).

The development of the FSPP will be co-led by the World Bank (financed under a separate budget) and the FAO. This will be placed in a broader context of the ongoing work of developing a Roadmap for Yemen's agriculture sector development, which is being undertaken by the Ministry of Agriculture and Irrigation (MAI) in collaboration with FAO and IFPRI⁴⁵. The development of the FSPP will be carried out in a highly participatory manner, consulting with the main line ministries and institutions involved in the agricultural sector, multilateral and other organizations, the private sector; and civil society including international and local NGOs. This approach will ensure capacity building of government counterparts will occur and equip them to prioritize resources and planning efforts to meet basic needs in this sector and build long-term resilience to climate change. This FSPP will be put in place within six months of the project effectiveness and will be subject to review by the World Bank's Technical Expert Group on Food Security. The implementation of the FSPP will be monitored on regular basis throughout the project period.

(b) Establishment of a satellite-based Earth Observation (EO) crop and pasture monitoring and early warning system for detecting climate-induced hazards.

The monitoring tool based on satellite remote sensing and geographical information systems (GIS) would address various information demands, including: (a) detecting and quantifying the spatial extent of cultivated cropland and pasture area, and assessing crop and pasture productivity (yield); and (b) identifying potential crop and pasture failure within the growing season. This tool would support monitoring agricultural production in a timely manner providing information to the GOY for decision making regarding food imports planning and will further strengthen MAI's agricultural extension and research capabilities by providing location-specific evidence on areas with crop and pasture stresses. Options for use of the tool outputs by the private sector for value chain planning and risk management purposes would also be explored and the EO tool design will include features and information to facilitate that. The data generated by the EO Tool will also feed into the FSPP implementation. The EO tool will initially be housed by FAO and arrangements to transfer to the appropriate agency will be identified during the project Mid-Term Review (MTR). The TORs for the EO tool establishment will be subject to the World Bank's no objection, including to ensure that the EO tool would be used for the intended (civilian) purpose only.

⁴⁵ The sector documents and strategies to be prepared as part of the Roadmap, are ultimately expected to be developed into the National Agriculture Sector Strategy (NAS) and National Agriculture Investment Plan (NAIP) will continue for another year to 18 months in a highly participatory manner. The NASS and NAIP will serve as one of the main inputs into the food security preparedness plan.



- (c) **Strengthening of agriculture extension services.** The activity will finance capacity building of the existing extension services, including the staff of the extension services, CAHWs and other extension service agents working in the communities. The Sub-component will build their capacity through training, participation in FFS and other activities to provide extension services to farmers engaging in the project-supported value chains and aiming to improve access to climate change adaptation and mitigation knowledge and technologies. CAHWs and other extension agents working in animal value chains will also be trained in animal disease surveillance and response. An electronic agricultural extension services platform⁴⁶, as well as a call-in advisory service, will also be established under the project.

A significant number of women as extension workers, agriculture technicians, Community Animal Health Workers (CAHWs) will be trained under this activity and recruited to be part of FFSs. The extension agents will be mobilized as agents for promoting diversified appropriate diet and nutrition practices to farming and other rural households. It is expected that the female extension agents will become part of the regular workforce of the existing agriculture extension service. In order to enroll future women extension agents in the capacity building and training program, a permission will have to be granted by their guardian, as is customary in rural Yemen. Selection criteria, which will be detailed in the POM, will be used to enroll women in the program. It is expected that engagement as the extension service agent will elevate status of the women in the community.

- (d) **Piloting alternative agricultural production technologies** activity will support the introduction of alternative, climate smart land- and water-efficient agricultural production technologies for production of nutritious crops (soil-less technologies, such as hydroponics and aquaponics) by financing a number of technology pilots and demonstrations in areas where previously production would not have been possible due to limited land resources. The project will finance production technology, infrastructure, inputs and awareness raising and training activities to raise awareness and uptake of these innovative technologies. For farmers interested in starting this production, productive kits will also be financed. Hydroponic farming is not only a water- and land-saving alternative to traditional farming methods to grow crops such as tomato, lettuce, and leafy greens among many other foods, but can also be economically viable, which will be explored during the project implementation. Prior research⁴⁷ suggests that wick systems and deep-water culture hydroponics would be best hydroponic farming options in Yemen. Given the importance of increasing protein production for better nutrition, the component will also explore the introduction of aquaponic systems, which combine fish and crop production.

30. **Component 5: Project Management and Knowledge Management (US\$16.7 million, including US\$3.2 million from GAFSP and US\$13.2 million from IDA).** This component would cover the costs associated with project management for all three Implementing Agencies (FAO, UNDP and WFP), such as implementation support, financial management, procurement, monitoring the project's environmental and social aspects, communications and beneficiary engagement, and overall monitoring and evaluation (M&E). Additionally, M&E is expected to be strengthened in two ways: (a) using the Geo-Enabling initiative for Monitoring and Supervision (GEMS), as well as (b) by carrying out an additional impact assessment (in collaboration with IFPRI), to assess the suitability and impact of project interventions in Fragility, Conflict and Violence (FCV) environment. This component would also

⁴⁶ There are 8.03 million internet users in Yemen (or 27 percent of the total population. Datareport, Digital Yemen, 2021.

⁴⁷ Famine Response in Yemen and Djibouti (P166073), World Bank, FY18.



finance a third-party monitoring (TPM) mechanism and the establishment and maintenance of a grievance redress mechanism (GRM)⁴⁸. Each Implementing Agency will have a separate GRM mechanism. The budget for this component takes into consideration the particularly challenging operating conditions in Yemen.

31. **For real-time data collection and analysis, the project will implement the Geo-Enabling method for Monitoring and Supervision (GEMS).** The GEMS method enables project teams to use open-source tools for in-field collection of structured digital data that automatically feeds into a centralized M&E system and Management Information System (MIS). Under the project, the Implementing Agencies will develop the relevant tools for the supervision of their components, which will feed information into the M&E system of the agencies. The integrated data can include any kind of indicators, based on tailor-made forms; photos, audio, videos; time and date stamps; and GPS coordinates that allow for automated geo-mapping of the information. The tools will allow the project to enhance the transparency and accuracy of project planning as well as M&E and third-party monitoring throughout the project cycle. GEMS will also allow for establishing a digital platform for remote supervision, real-time environmental and social monitoring, and portfolio mapping for coordination across project components as well as with other operations in the region. The GEMS will be applied where possible and appropriate, in full transparency with relevant authorities.

32. **Integration of COVID-19 response.** The project will use its resources (such as field consultants) to integrate COVID-19 awareness and preventive measures in the training events and awareness campaigns planned for beneficiaries. Awareness raising and training events will follow precautionary measures described in workshop/training protocols, as well as enforce and maintain adequate distancing during control, distribution, training, payment, and other project activities. These will also be conducted in locations and during times that are convenient for women. The project will work with local communities, female and male consultants, and beneficiaries to reach households with awareness and hygiene materials (such as masks, hand sanitizers and other relevant consumables) that will be developed in a way that will resonate with women and men's different roles and behaviors at home and in society. The decision on which hygiene materials to procure will be made in coordination with the COVID-19 health emergency project in Yemen.

33. **Selection of project area.** The project is expected to operate in the areas with the highest food insecurity, poor nutrition outcomes and livelihoods constraints, and in need of emergency assistance. District-level project sites are therefore selected within the targeted governorates (based of the IPC classification) based on the food insecurity and malnutrition levels. Districts with the highest level of food insecurity and malnutrition are prioritized and the presence of aggravating factors (floods, impact of COVID19-related restrictions and desert locusts) are included in selection criteria. Other criteria include agriculture's contribution to livelihoods (proportion of rural population), household poverty levels, and whether the household is benefitting from other relevant programs in agriculture and livelihood support/food security⁴⁹. The project will be implemented in areas which are accessible and where the project recovery and development interventions can be implemented. The approach is to keep the project design flexible, allowing for adjustments as needed. This may include changes in the project targeted districts if original districts become inaccessible and adjustments to the implementation schedule due to access and security constraints and other reasons. The initial set of 77 target districts in which the project will operate has been selected across ten governorates: Abyan, Al Bayda, Al Dhale'e, Al Hudaydah, Al Jawf, Amran, Dhamar, Hajjah, Lahj and Taizz:

⁴⁸ If feasible, the existing GRM systems may be adjusted for the use under the project.

⁴⁹ The project will leverage SFD's knowledge of the various programs and their beneficiaries.



Table 8: Breakdown of Selected Districts by Governorate

No	Governorate	Total
1	Abyan	5
2	Al Bayda	5
3	Al Dhale'e	4
4	Al Hudaydah	11
5	Al Jawf	9
6	Amran	13
7	Dhamar	3
8	Hajjah	8
9	Lahj	6
10	Taizz	13
	Grand Total	77

34. The district selection may be revised with an appropriate justification or is a district no longer meets the criteria.



ANNEX 4: Fiduciary Aspects of the Project

COUNTRY: Yemen, Republic of Yemen Food Security Response and Resilience Project

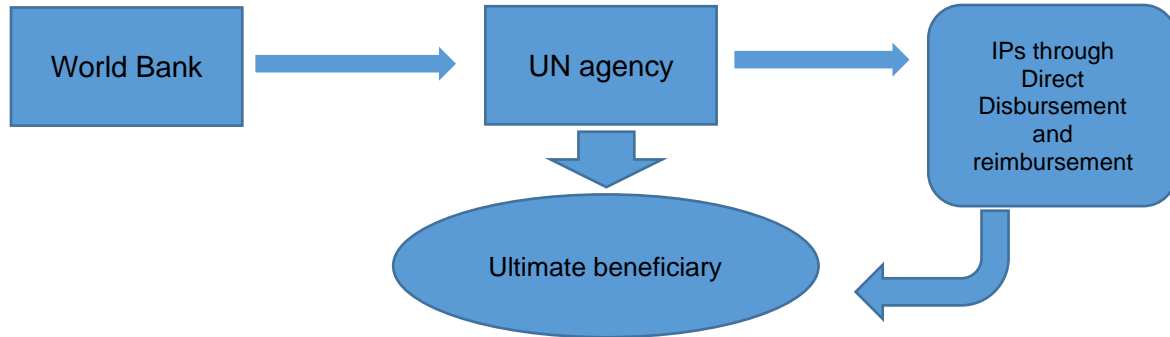
Financial Management

1. **FM Arrangements:** The project's financial management (FM) arrangements will be governed by the FMFA between the World Bank and the UN agencies, which provides for the use of the UN's Financial Regulations.
2. **Accounting and financial reporting:** The recipients (FAO, UNDP and WFP) will: (i) maintain an FM system, including records and accounts, adequate to reflect the transactions related to the activities, in accordance with the requirements of the UN Financial Regulations; (ii) maintain a separate ledger account (Grant Control Account) in their books to record the financial transactions of this project; (iii) prepare, on a quarterly basis, unaudited IFRs, in accordance with accounting standards established pursuant to the UN Financial Regulations and in the format agreed with the Bank during negotiation of this project, adequate to reflect the expenditures related to the project. The IFRs will be provided to the World Bank no later than 45 days after the end of the quarter.
3. **Internal controls:** To ensure proper controls are applied over the use of funds, the recipients will ensure the following:
 - The finance teams located in the field is comprised of sufficient qualified staff to review and properly maintain and file all original supporting documents of the project. The finance team will also ensure that proper controls are in place over the use of funds and that payments are made for eligible expenditures with consideration to economy and efficiency.
 - The compliance team or its equivalent will assist their finance teams to ensure arrangements are in place for funds to reach the legitimate beneficiaries.
 - Finance and compliance teams will ensure proper controls are in place for management and recording of inventory. In addition, they will ensure that proper measures are in place to prevent double-dipping of activities.
 - Adequate financial and technical reviews are conducted regularly by the TPMAs and recipients' finance and/or M&E teams.
 - In case of payments to individuals in return for goods or services rendered, recipients will use mobile banking, payment agencies or other methods that can provide a high level of assurance that funds reached the intended beneficiaries.
 - Recipients will ensure that IFRs are properly reviewed and approved before submission to the Bank. In addition, IFR reported expenditures will include no advances other than those agreed with the Bank and disclosed in the IFR.
 - For the CFW component that will be implemented by UNDP accuracy of beneficiaries' lists will be verified with proper controls on enrollment and during implementation. UNDP needs to ensure no duplication of the beneficiaries under this component with the ECRP CFW component. Beneficiaries lists will be made available to TPMAs and auditors for selection of samples for reviews.
 - UNDP has measures in place of conducting regular spot-checks and annual audits (of implementing partners receiving more than US\$300,000 per annum).



- Measures for choosing implementing partners and monitoring their work will be agreed in advance with the Bank.

4. **Flow of funds:** The project will use the IFR method for the flow of funds to FAO, UNDP and WFP. The form and substance of the IFR reports was agreed during negotiation. For this project, recipients will use the Direct Implementation modality as much as possible, to mitigate any risk associated with advances to implementing partners, by which funds will flow from the Bank to their corporate accounts and then to the ultimate beneficiaries/recipients without going through intermediary accounts.



5. Funds will flow from the Bank to the UN agencies corporate accounts. Transfer from the UN corporate accounts to UNDP, FAO and WFP in Yemen will be based on semi-annual forecasts. UN agencies disburse in US\$ and the Implementing Partners obtain market rates based on UN rate, triggered by UNDP’s monitoring of daily market transactions through the Yemeni association for money exchangers. Implementing Partners follow the UN rates and ensure that the commercial banks they are dealing with apply the same rate.

6. Use of advances to implementing partners will be limited. In cases when advances are used, recipients (the UN agencies) will ensure proper controls are in place, such as: (i) the advances will not exceed certain thresholds; (ii) no new advances are released to implementing agencies unless previous advances are fully settled (in cases of partial settlement, additional funds can be provided within the limit of the partial settlements made); (iii) all original supporting documents for expenditures incurred under the project are maintained; and (iv) all advances have proper audit trails.

7. Recipients (the UN agencies) will exert all efforts to ensure that funds reach the ultimate beneficiaries with sufficient evidence provided. This includes ensuring that no funds are transferred to the central government or personal accounts of individuals unless those individuals are the legitimate recipients of cash for work or services rendered.

8. **Audit:** The Recipient will ensure that the audit of its Respective Part of the Project is carried out exclusively by its Financial Regulations and Rules. In addition, as agreed by the Recipient and the Association, the Recipient will carry out any additional due diligence activities as agreed by the Recipient and the Association in separate terms of reference. (Note that this wording can also be included in the disbursement letter.)

9. **Supervision Plan:** The Bank will carry out quarterly supervision of project activities. The supervision will include desk work, which will incorporate the review of financial TPMAs reports provided by the recipients, and field visits to review samples of expenditures and control procedures applied.



10. **Retroactive financing.** Retroactive financing in the amount of SDR 57,000 was agreed with FAO during the negotiations, allowing FAO to obtain reimbursement of eligible expenditures incurred prior to the effectiveness date (which is the Financing Agreement signing date). Such reimbursement can be obtained for payments made on or after January 1, 2021, for Eligible Expenditures under Categories 4 and 5.

Procurement Arrangements

11. The project would be financed using the Investment Project Financing (IPF) instrument in the amount of US\$100 million IDA financing and US\$27 million from the Global Agriculture and Food Security Program (GAFSP) and would be implemented over a four-year period.

12. The project has a Cash-for-Work (CFW) program, which would support beneficiaries to carry out improvements of productive agricultural infrastructure; however, there are several envisaged procurements under the project. The project envisages import and distribution of specialized foods for malnourished children up to five years of age and pregnant and lactating women and girls. Furthermore, the project is expected to procure starter packages for crops, animal feed, improved forage seeds, equipment and inputs to start fish farming, as well as bee-keeping kits. For these purposes, the project will procure seeds, seedlings and fertilizer for the productive kits, small tools, etc. The project will also provide grants to finance farm equipment such as fodder choppers and small dairy equipment, energy efficient post-harvest handling and storage facilities, small-scale primary processing equipment (for grading or packaging, for example), technical assistance, software (platform) and other necessary items. Several trainings and advisory services to strengthen the capacity of both the private (households) and public sectors for food security crisis planning and response are also expected under the project. The project would support preparation of a food security preparedness plan, establish a satellite-based Earth Observation (EO) crop and pasture monitoring and early warning system for detecting climate-induced hazards.

13. The UN agencies (FAO, UNDP and WFP) will follow their own procurement procedures under Alternative Procurement Arrangements to procure the required supplies, including storage and distribution to the final destination. No contract will be subject to World Bank prior review.

14. **Alternative Procurement Arrangements:** UN agencies will apply their own procurement procedures as Alternative Procurement Arrangements (use of which under this project was approved on March 25, 2021) found acceptable to the Bank under other agreements and allowed by the Procurement Framework Policy Section III. F. This procurement arrangement is considered a fit-for-purpose arrangement for several reasons:

- UN agencies have a strong presence on the ground and have proven that they are well equipped to work in conflict and post conflict areas in Yemen and have the capacity to reach out to the most affected beneficiaries.
- The procurement activities proposed under this project are within the mandate of UN agencies. UN agencies have in place fast-track procedures for countries in emergencies such as Yemen where there is a dedicated country Emergency Support Team to ensure that the required technical and operational support are provided on timely manner.
- The implementation arrangement is flexible and may rely on the capacity of SFD, PWP, and other local Implementing Partners, for activities under a threshold as assessed and prescribed by UN agencies in coordination with the Bank.
- UN agencies have preparedness and mobilization mechanisms in place, which enable optimal emergency procurement.



- UN agencies are well informed about the market response locally and internationally, have a strong presence on the ground, and have the capacity to work in conflict and post-conflict areas in Yemen.
- UN agencies' procurement arrangements provide reasonable assurance that World Bank financing will be used for the intended purpose.

15. UN agencies will be responsible for: (i) implementing the procurement plan as agreed with the Bank; (ii) hiring the TPMA, among other activities; (iii) preparing a semi-annual report on the progress of procurement and distribution as well as updates on the implementation of the ESCP; (iv) reporting on the indicators in the results framework; (v) providing other relevant performance information to the World Bank as requested; and (vi) ensuring pre-screening of companies/individuals prior to award any contract financed by the Project against the Bank's lists of sanctioned or temporarily suspended companies; this includes ensuring that all Implementing Partners have procedures in place for such screening.

16. **Local Implementing Partners.** UN agencies will retain overall responsibility for project implementation through the local implementing partners. The following arrangements are expected under the project: a) FAO will work with SFD, and SMEPS as local partners for implementation. Before engagement, FAO carries out an assessment of the local partners, including their procurement capacity; b) UNDP is expected to work with PWP and SFD; UNDP has assessed the procurement capacity of PWP and SFD on June 2020, May 2020, and November 2020 respectively and found them acceptable. Accordingly, UNDP will decide on the appropriate contractual arrangement with each entity in accordance with its own operational guidelines. SFD is not expected to do any procurement either under component 1 or component 2. PWP is expected to conduct small-scale infrastructure-related works in accordance with UNDP's procurement rules that have procedures in place for national procurements and shopping. The total size of the works to be implemented by the PWP amount to US\$3 million, or 2.4 percent of the project amount. UNDP has the required capability and resources to oversee the procurement done by PWP. UNDP has a dedicated procurement unit to support procurement operations and they conduct periodic audits of the local IPs and perform spot checks to ensure the quality and efficiency of the local IPs procurements. This will be complemented by review of their procurement performance as part of third-party monitoring. SMEPS, which will be working under Component 2, alongside FAO and IFC to ensure knowledge transfer on value chain development, is not expected to carry out any procurement, but would act as a technical service provider; c) WFP might engage some IPs under the project; however, they have not yet been fully identified. The UN agencies would retain full fiduciary responsibility and accountability. During project implementation, UN agencies may engage additional local IPs, if deemed necessary, after assessing and accepting these local partners' procurement capacity by the relevant UN agency.

17. **Planned project procurement and approaches.** Component 1 will mainly include procurement of contractors for focused on restoration of public/collective previously dilapidated productive assets, including those affected by the recent floods. This is expected to involve small civil works contracts procured through shopping and national procurement. Component 2 procurement will include vegetable seeds, livestock kits, agricultural vaccines, fodder choppers, poultry kits, and set-up of drip irrigation systems and green houses. All procurement under Component 2 is expected to be carried out by FAO. FAO will explore the international markets for most of the procured items; however, the local market will be also approached to procure certain available items.

18. Residual procurement risk is rated Substantial due to the security situation in Yemen, composition of the marketplace (limited competition and availability of service delivery), and the nature of project activities, which are not complex but might be impacted by the situation on the ground in the conflict or post-conflict zones.



19. UN agencies will approach the local market to get the required procurements and will also approach the international market to mitigate the risk of non-availability of goods/requirements in the local market. There is a risk of procurement delays due to unexpected events (if clashes break out between rival groups, for instance) in addition to difficulties with logistics (mainly in importation, storage, and distribution) arising from the need to obtain required security clearances from several political parties. This risk will be mitigated through advance coordination by UN agencies with the different political parties to ensure smooth implementation/delivery. Another foreseen risk is the delay occasioned by UN agencies internal processes and approvals. This risk would be mitigated by advance planning and delegation of authority at the appropriate levels as well as commitment by UN agencies to comply with agreed timelines. In addition, there is a risk related to the government's capacity to monitor and control receipt, storage, and distribution of the procured goods; UN agencies will be responsible for storage, distribution, and delivery of the supplies to the final destination. There is an additional risk that may evolve from engaging local implementing partners such as undue political interference and insufficient oversight from UN agencies. This risk can be mitigated by proper coordination by UN agencies with the relevant political parties, and detailed reporting on the progress of the procurement plan implementation by the UN agencies, in addition to the continuous implementation support and supervision through regular meetings with UN agencies and the Implementing Partners as well as virtual missions. The Bank will also: a) review and approve the procurement plans and their updates; b) review the TOR and selection criteria for the TPMAs, and obtain a summary of the qualifications of the winning candidate or the successful candidates as the case may be for the various UN agencies, for the selection of the third-party monitoring agent; the TOR and the summary of the qualifications for such TPMAs will be submitted to the Bank for its review prior to finalizing and issuing the contract for services of the TPMAs; and c) review the TPMA reports and take actions as needed. Moreover, there is a foreseen risk related to outbreaks of COVID-19 that may delay implementation/delivery.

20. **Systematic Tracking of Exchanges in Procurement (STEP), Procurement Plan (PP), and Project Procurement Strategy for Development (PPSD).** The use of STEP is not recommended under this project due to the unique nature of the project arrangements. In addition, there will be no contract subject to prior review and the implementing agencies have their own tracking systems and would generate procurement progress reports as required. The draft PPs were prepared by all Implementing Agencies and finalized during the Negotiations. Given that this project is an emergency operation, the PPSD will be deferred to the implementation phase.

21. **Procurement Management.** For the purposes of this project, UN agencies will ensure that the procurement units are staffed with one qualified international procurement staff and at least two qualified national procurement specialists to conduct day-to-day procurement functions. UN agencies will ensure that all Implementing Partners have sufficient and experienced procurement staff with adequate skills to carry out the procurement functions during the life of the Project.



ANNEX 5: Economic and Financial Analysis

COUNTRY: Yemen, Republic of Yemen Food Security Response and Resilience Project

- 1. Introduction.** This annex summarizes the ex-ante economic and financial analysis of the project, which assesses the incremental benefits and costs derived from the main investments identified in the project description and theory of change. The analysis attempts to evaluate the project's expected performance and the feasibility of planned investments from the perspective of its financial net benefits and costs, and also from the standpoint of the project's overall economic benefits, costs and externalities.
- 2. The financial analysis consists of assessing financial returns and viability of major investments from** the point of view of direct beneficiaries. For this purpose, a set of typical financial models are developed to illustrate the financial results of investments. It concerns terrace rehabilitation, improving access to water and small irrigation facilities, promoting income-generating activities, combined with marketing and technical advice on crop and livestock production to improve farmers' incomes, and food accessibility and availability in targeted areas.
- 3. The economic analysis provides an evaluation of the project's economic profitability** from the perspective of the country as a whole by aggregating project total costs and benefits derived from models considering economic values. In addition to this, the current analysis also includes other relevant positive externalities that allow to assess important project benefits in terms of **a.** reduction in undernutrition, wasting and stunting due to the increase in food access and availability, among other interventions, following a methodology⁵⁰ to value the impact of decline in wasting in terms of long-term increase in human capital an incremental life-time earnings of non-undernourished children as well as avoided health care expenditures of non-undernourished children and; **b.** the greenhouse gas (GHG) emissions reduction that is calculated by using the EX-ACT tool (FAO) and valued following the World Bank guidelines on carbon accounting in projects.
- 4. Sources of information.** Data collection for the analysis was made from a wide range of sources, including consultations among FAO Yemen officers, local farmers, local suppliers and other key informants in the field. Information was also obtained from World Bank's Project SAPREP formulation and implementation and other IFIs recently formulated projects as IFAD's Rural Livelihood Development Project (RLDP) (2020).
- 5. EFA Guidelines.** The incremental benefits and costs derived from the Project are evaluated according to the guidelines of the World Bank for the Economic and Financial Analysis of Investment Operations, which comply with the World Bank's Environmental Strategy and Climate Change Policy.
- 6. Project Impact.** The Project Development Objective is to improve the availability of and access to food and nutritious diets, both in the short and medium term, for targeted households in the Project Area, and to enhance Yemen's capacity to respond to food insecurity. The project will target poor households and will invest in increasing household food accessibility and availability and improving nutrition through four main components: Component 1: Improving household incomes through CFW for agricultural production infrastructure and building climate resilience; Component

⁵⁰ The methodology is informed by the emerging literature on the economics of nutrition, as well as economic appraisals from similar recent projects such as WB- SAPREP (2017), World Bank (2014), Income Support Program for the Poorest, Bangladesh November 17 2014, Report No: PAD957; IFAD (2015) Strategic Support for Food Security and Nutrition Project (SSFSNP), Final design report.



2. Increasing production and sale of nutritious crop, livestock and fish products; Component 3: Improving the nutritional status of vulnerable rural households; and Component 4: Capacity building for food security management and climate resilience. The economic and financial analysis estimates benefit, costs and profitability measures expected due to the main typical interventions identified for each component summarized in 16 financial models.

7. Main activities and financial models developed. Component 1 activities include the rehabilitation and maintenance of terraces, on-farm water harvesting facilities (underground cisterns and open wadi pits), watershed management/rainwater harvesting structures in mountainous areas (check dikes and gabions/retaining walls in wadi beds), spate irrigation works in lower mountains and foot-hills (small spate diversion canals, shallow wells and springs), irrigation canals and farm-level conveyance systems, rehabilitation of small rural access roads to isolated villages/communities. Hence, six financial models were developed targeting four main investments that will be promoted: terrace rehabilitations (one model for coffee and one for sorghum); water harvesting cisterns (new and rehabilitated); canal control structures (micro and small spate structures); and rooftop rainwater harvesting.

8. Component 2 activities include two main intervention packages. Package 1 promotes smallholder agricultural production through the restoration and improvement of horticulture, crop, livestock farming, and fishing production activities. Four financial models were developed: a. beekeeping and honey production as an income-generating activity; b. increased livestock production (small ruminants); c. commercial and local laying poultry model; and d. hydroponic units.

9. Intervention Package 2 supports enterprising producers, processors and traders to scale up, improve product quality and aggregation, consolidate production, and access higher-value local and regional markets with their products. Five other models were developed to assess economic and financial results and impacts of these investments: a. horticulture collection centers (new and rehabilitated); b. horticulture seedlings centers (new); c. milk collection and cooling centers; and d. milk processing facilities. Finally, Component 3 nutrition activities are illustrated in a home-garden model, which intends to increase household access to diversified food and the opportunity cost of the time of household members.

10. Financial Analysis. The following analysis summarizes the main assumptions and results of the financial analysis and financial models considered.

11. Terrace rehabilitation (models 1a and 1b). Based on activities implemented under the SAPREP project and its ex-ante evaluation, this model illustrates the impact of rehabilitating terraces and supporting the adoption of better agricultural practices which leads to an increase in cereal yields. Terraces are traditionally used in the project area to grow cereals, coffee, animal fodder and it is a proven technology to improve agricultural biodiversity adapted to rainfed conditions and based on a cereals-legumes intercropping and rotation system⁵¹. Being a dominant cereal crop grown in rainfed systems, a sorghum model has been used as proxy for cereal crops and also coffee was selected to capture the variety of crops. Incremental revenue is derived from increased yields due to improved soil fertility and better agricultural techniques. Terracing will not only contribute to return previously fallow land into productive use but also will reduce runoffs, water losses and water-originated damaging floods which might contribute to soil erosion and destruction of further downstream terraces. On the rehabilitated terrace, reduction of soil erosion will translate into an increase of the productive potential of the soil, into less depletion of the soil nutrient content and ultimately into an increase of soil fertility. The model presents an incremental net benefit per ha of US\$563 for Sorghum and US\$766 for Coffee.

⁵¹ Economic and social impact of terraces and outcomes of terrace rehabilitation study (Pelat, 2009)



12. Water harvesting cisterns (models 2a and 2b). Water harvesting structures with a capacity of about 153 m³ will provide water for human consumption (40 percent) and agriculture (10 percent) and animal consumption (50 percent). Hence, three sources of benefits are being identified: a. Value of water available for domestic consumption, that represent economies for households that do not need to buy water from alternative water sources at market price; b. Value of incremental agricultural production due to water available to irrigate agricultural land (command area initially estimated at 0.012 ha- depending on the water requirement per crop); and c. Value of incremental livestock production as each water tank will provide daily water to approximately 201 heads of small ruminants per year. It was conservatively assumed that only 50 percent of the benefits of the livestock model (benefits in terms of meat and milk production) would be due to a substantially better water supply, following SAPREP (2017) EFA estimates. The model shows the incremental net benefit of US\$2,743 per family for new cisterns and US\$913 per family for rehabilitated cisterns.

13. The spate irrigation model builds upon SAPREP's Ex-ante EFA estimates. It is based on traditional Yemeni irrigation techniques when floodwater is diverted from its riverbed and channeled to basins where it can be used for irrigation and also to feed water ponds for animal watering. Sorghum, a drought-resistant crop, was selected to illustrate the benefits of incremental production as irrigation water diverted from floodwater cannot be predicted. A without project situation of rainfed sorghum is assumed and investments lead to an increase in yields by 20 percent due to improved irrigation (SAPREP; 2017). Under a conservative approach, one year for construction is considered before starting to provide benefits. For sustainability purposes, maintenance and replacement costs are also needed and included but assumed to remain constant. It consists of unskilled labor that the beneficiaries can provide over the year which would make sure that the benefits of reservoirs can be sustained. The incremental net benefit per structure per year is expected to be around US\$7,100.

14. Individual rooftop water harvesting cisterns. The rainwater harvesting structures will improve the access of rural households to potable water, with water used mainly for domestic consumption (90 percent) and agriculture (10 percent). More water available for domestic consumption will reduce costs of drinking water for the family and will reduce drudgery and the travel distance to fetch water, particularly for women. Based on SAPREP estimates (2017), it is assumed that the cistern (18m³) will have to cover at least a dry period of three months (90 days) with an average use of 195 liters per household and per day. Hence, each cistern will have a capacity of 17.5 m³ which is equivalent to 17,550 liters of water. It is assumed that an average family needs 195 liters of water per day⁵² and the tank is not the sole water source of the household. As a result, this cistern would then supply one family per 90 days. The economies made in terms of cost of drinking water reduced to households are calculated using the following assumptions: 15,005 liters of water per tank will be available for domestic consumption, with a 5 percent evaporation rate; 1/3 of this water can be used as drinking water, and the market price of 1 liter of drinking water is 3 YER (0.5 cent US\$). The total value of economies made in terms of cost of drinking water reduced per tank is about US\$27.

15. It is understood that a woman can take up to 1.2 hours to fetch water for her family for drinking daily and the objective is to reduce this time to 30 min (per day)⁵³. One hour saved per day can then be valued using the actual hourly wage of unskilled labor YER 4,000 per day (about US\$7), after shadow pricing to take into account the estimated underemployment in rural areas. Economies made in terms of time saved for fetching water are not presented in financial analysis but are estimated at about US\$320 per family and per year.

16. Rural feeder roads pavement. Village roads are among the highest priority needs for communities as they can improve access to markets and bring about positive impacts on the living standards of the beneficiaries. An evaluation of

⁵² Source: *Comparative study of Social Fund water Interventions* (2013)

⁵³ *Comparative study of Social Fund water Interventions* (2013)



the impact of community investments done under the ECRP stated that “the intended achievements of road pavement interventions were obvious in many aspects, creating employment opportunities for youth and IDPs, facilitating the mobility of people and the transportation of food items as well as the accessibility of daily life materials.” Farmers benefit from rural roads, in particular from the reduction in the cost of transporting inputs (thus improves on-farm production) and better access to market to improve their incomes.

17. Bee keeping and honey production as Income Generation Activity (IGA). Establishing new bee hives and promoting honey production is included to offer a new source of income to farmers currently engaged in subsistence production on small areas. Given the difficult terrain (limited agricultural land, terraces in Western mountainous districts, etc.) farmers need to grow high value, low-volume crops or initiate some off-farm IGAs. The project will provide willing farmers with beehives, bees, necessary equipment and training in order to start a beekeeping activity. Based on the SAPREP ex-ante evaluation (2017) there is a high premium price that be paid for local honey, turning bee-keeping into an attractive income generating activity. Honey production would increase from the initial level of 12 kg per year to 23 kg per year, showing an incremental net benefit to farmers of US\$1,804 per year.

18. Increased livestock production. Based on the experience in SAPREP implementation, the model shows financial results for smallholders participating in restocking of small ruminants with local improved breeds activities adopting improved husbandry practices (better hygiene, vaccination and supplementary feed) as well as having better access to irrigation infrastructure and animal watering. The existing animal husbandry practices limit the milk and meat yields keeping them below the potential. Low animal productivity and profitability in livestock husbandry are due to inappropriate livestock feeding practices, limited availability of clean drinking water, poor housing and livestock husbandry practices. Furthermore, limited access to short and medium-term financing prevents smallholder farmers from investing in the rehabilitation and upgrading of their farms. The main challenge smallholder farmers are facing in the project area is to optimize the benefits of mixed farming (crop/fodder and livestock production together) by using productivity enhancing technologies. It was conservatively estimated that milk production would be 0.8 liters/day per goats and 0.7 liters/day per sheep (with a milking period of 190 days) due to good water supply and to the adoption of an improved feeding regime. The incremental net benefit per stable is expected to be US\$920.

19. Commercial and local laying poultry model. The model shows the financial results of a small poultry activity. The activity is initiated with the first batch of 50 commercial layer chickens (7 months) and 50 local hens (age 7 months) received for a 12-month period. The investment costs for the activity include the cost of birds, poultry shed, feeders and drinkers. The birds are kept mostly under a closed system (due to the threat of predation) and the egg production would be mostly sold at the local market. Unproductive and old stocks are sold at the end of the year, the egg production estimations are relatively low (260 eggs per commercial layers and 130 eggs per local hen per year), and 15 percent mortality is considered for layers and 50 percent for local hens. At full development, the model shows an incremental net benefit to farmers participating of about US\$330 per year.

20. Hydroponic unit. This model illustrates the impact of investing in a new deep-water hydroponic greenhouse system of 285 square meters for the production of vegetables based on recent studies for this technology in the region⁵⁴. It estimates a production capacity of about 6,220 heads of lettuce per cycle, for a maximum capacity production of 47,272 heads per year. From the total production, about 10 percent is expected for self-consumption and 90 percent for commercialization. The model foresees remunerating on average 156 days of family labor per year. The beneficiaries are expected to contribute 5 percent of the total investment. Overall, the model shows an incremental benefit of about

⁵⁴ World Bank; 2018. Middle East and North Africa Food Security in Yemen and Djibouti Improving Food Availability and Access for Rural Households in Yemen and Djibouti. Report No: AUS0000454



US\$1,860 per year, and a return to family labor of about US\$14 (7,521 YER per day), which is fairly high compared to the range of 3,000-4,000 YER/day that they can earn as laborers elsewhere.

21. Horticultural Seedlings Centers (HSC). This model illustrates the impact of constructing a new horticultural seedling center integrated by three greenhouses of 200 square meters each, with capacity to produce 200,000 seedlings per cycle each. The center is designed to carry out one and a half production cycles per year per greenhouse for a total annual production of 300,000 seedlings per greenhouse or 900,000 by HSC.⁵⁵ Each HSC will benefit up to 20 tomatoes, hot pepper and cucumber farmers that are members of the HSC. The farmers will have a significant financial benefit (40 percent) due to the difference between the seedlings market price (70 YER) at which they buy today, and HSC members sale price (50 YER). The model foresees supplying exclusively to its members, however the expansion of operation capacity could enable the centers to shift towards also benefiting other farmers in the area, which could increase the business performance of the centers while also expanding the impact of the centers in the communities. Three new jobs are expected to be created, with each HSC having an incremental benefit estimated at US\$18,991 per year.

22. New Horticultural Collecting Centers (HCC). This model illustrates the impact of constructing a new horticultural collecting center that will benefit 20 horticultural farmer members. These centers will help the farmer associations to have more capacity to perform group post-harvest handling activities (sorting, cleaning, drying and grading) and aggregate products for joint commercialization through women groups. Each HCC at full capacity will be able to handle 1 million kg per year. The investments will cover the costs of the construction of the storage/work area, and the post-harvest handling and the equipment (crates and cleaning, sorting and grading machines). Each new HSC will create three new jobs. Net incremental benefits per year are estimated at US\$20,250. The HCC will facilitate joint marketing by ensuring greater volume, better quality, a steadier supply to the market and better product prices for its members.

23. Horticultural Collecting Centers (HCC) Upgraded. This model illustrates the impact of upgrading a current HCC to increase their volume by 25 percent to a maximum of 1.25 million kg per year, benefiting around 20 farmer members. These centers will help the farmer associations to increase their volume capacity to perform group post-harvest handling activities (sorting, cleaning, drying and grading) and joint commercialization. The investments will cover the costs of expanding the storage/work area, and the post-harvest handling and the equipment (crates and cleaning, sorting and grading machines). Each new HSC will create two additional jobs (incremental benefit) to the three existing jobs. The upgraded HCC will facilitate a constant supply to the market in the same conditions. Net incremental benefits per year are estimated at US\$3,150.

24. Milk Collection Unit. Yemen's local milk production is processed and commercialized outside the modern industrialized channels, in local medium- and small-sized dairy collection and processing facilities and informal household processing operations. While these are reasonable alternatives for small and medium dairy producers to find their space in the market, these facilities face major quality issues due to the limited use of cooling facilities and poor hygiene standards. Milk and other processed dairy products are sold at lower prices, thus generating lower margins for producers and small-scale processors. Two dairy models were analyzed as investments potentially supported by the project to increase the quality and value of milk for dairy producers' groups, namely: (i) establishment of a milk collection and cooling center, with total capacity to collect 900 tons of milk per year; and (ii) a dairy processing facility focusing on the production of yoghurt (50 percent of processing capacity), labaneh (30 percent of processing capacity), white soft cheese (20 percent of processing capacity), and total processing capacity of 700 tons of milk per year. Each facility is considered

⁵⁵ One and a half cycles relate to the fact that in the minor season (shorter season) the demand for seedlings will be smaller and the center will operate at half capacity.



to benefit groups of 50-80 small-scale dairy producers (8-10 cows/farmer) with an average annual production of 13,000 kg of milk per producer.

25. The investment to establish the *milk collection and cooling center* yields an NPV of more than US\$144,000 in a period of 10 years, and its net incremental benefits are estimated at about US\$32,890 YER per year. The collection center is reasonably sensitive to a reduction in the difference between prices of milk collected and that of refrigerated milk. However, this margin is reasonably stable as the costs of milk collection and refrigeration are unavoidable costs within the milk supply chain. They will be absorbed either by collection centers which will be rewarded for their service or by processors either by paying for the costs of collection/refrigeration, or by buying lower quality milk.

26. Dairy processing facility. This investment has the potential to generate a NPV of more than US\$278,000 and an estimated net incremental benefit of about US\$63,500 per year. The average cost for processing milk is about US\$0.95 per kg of milk processed (including the cost of fresh milk), while the average sale price of the processed product (yogurt, labaneh or cheese) equivalent to a kg of fresh milk processed is about US\$1.06. This means that this processing facility offers a value-added potential of around US\$0.1 per kg (or 60 YER) with very modest prices of dairy products used in the models.

27. In summary, the analysis suggests that investments to support both milk collection centers, and processing facilities are financially attractive. In the case of collection centers, it would require a relatively smaller investment (less than US\$86 per cow), while adding a net value of about US\$61 per cow per year. While the processing facilities require a larger investment (about US\$235 per cow), their value addition capacity is much higher, about US\$132 per cow per year.

28. Homestead gardens. This model illustrates the impact of a family homestead garden (10 by 10 square meters) to produce vegetables. The model considers a diversified garden using 25 percent of the surface to produce tomatoes, 25 percent cucumber, 20 percent onions, 10 percent okra, 10 percent hot pepper and 10 percent mallow. The Home Garden model contemplates total investments of US\$600 per family on a production kit that includes seeds, tanks, protection materials, tools and organic manure. The results show an incremental benefit of about US\$91 per year, and a return to family labor of about US\$7 per day. This is within the range of US 6-7 (3,000-4,000 YER/day) that they can earn as laborers elsewhere, and much higher than the opportunity cost of their time given the limited job opportunities.

29. Women entrepreneurship. This model illustrates the impact of the project's support to women's small businesses. The project will support about 7,500 women to invest in a range of small businesses (around 2,500 businesses), including sowing and embroidery which is one of the main activities and that is illustrated in the EFA. The average business contemplates a total investment of about US\$630 per women on a production kit that includes a sewing machine, embroidery equipment and materials. The results show an incremental benefit of about US\$155 per year, and a return to family labor of about US\$5 per day. This is close to the range of US\$6-7 (3,000-4,000 YER/day) that they can earn as laborers elsewhere, and much higher than the opportunity cost of their time given the very limited job opportunities.

30. Financial analysis results. The financial analysis results of the models presented above are summarized in Tables 1 and 2. Based on the estimation of incremental flows of benefits and costs derived from the models, financial indicators were estimated for 20-year evaluation period at a financial discount rate of 6 percent.

31. As indicated in Table 1 below, overall, all the models were found financially profitable as they showed positive financial internal rates of return. The models showing the highest financial returns on investments in the intervention package 1 are the following: Poultry production model (FIRR at 45.3 percent) followed by Small ruminants (31.3 percent).



In the case of intervention package 2, the Milk-collection Center (FIRR at 74.7 percent) ranks first, followed by ii) Seedlings Center (FIRR at 54.9 percent) and iii) Dairy processing facilities (FIRR at 49.2 percent).

Table 9: Summary Financial Profitability Results

#	Model	IRR	NPV	Ratio B/C
	Item	%	USD	N°
1.a	Terrace rehabilitation Coffee	11.1%	1,707	1.25
1.b	Terrace rehabilitation Sorghum	21.0%	1,986	2.55
2.a	Rehabilitation Water Storage Tanks	18.6%	4,693	14.73
2.b	New Water Storage Tanks	27.2%	19,472	2.86
3	Canal Control Structures	23.1%	26,772	1.75
4	Rainwater Harvest Rooftops	59.1%	167	3.20
5	Household Small Livestock Production - Beekeeping	13.4%	2,317	1.36
6	Household Small Livestock Production - Small Ruminants	31.3%	7,871	1.90
7	Household Small Livestock Production - Backyard Hens	45.3%	1,372	1.24
8	Seedlings Center	54.9%	75,532	1.38
9	Milk collection Centre	74.7%	144,904	1.05
10	Dairy Processing facility	49.2%	278,348	1.09
11	Post-harvest Centre new	23.2%	54,098	1.61
12	Post-harvest Centre Upgrading	11.6%	4,894	1.50
13	Hydroponics Kit	11.3%	3,274	1.07
14	Homegardens Kit	11.1%	130	1.91
15	Women Entrepreneurship	24.5%	586	1.65

Table 10: Summary of Financial Profitability Results (II)

Item	Unit	Financial Models (USD)												
		Terrace rehabilitation Coffee	Terrace rehabilitation Sorghum	Household Small Livestock Production - Beekeeping	Household Small Livestock Production - Small Ruminants	Household Small Livestock Production - Backyard Hens	Seedlings Center	Milk collection Centre	Dairy Processing facility	Post-harvest Centre new	Post-harvest Centre Upgrading	Hydroponics Kit	Homegardens Kit	Women Entrepreneurship
Without Project														
WOP Margins*	USD	78	207	566	377	518	8,817	8,483	7,748	4,096	13,342	183	20	45
With Project														
Costs	USD	1,064	569	2,291	2,206	4,004	50,452	662,975	668,909	10,441	26,992	6,181	130	300
Revenue	USD	1,704	1,542	4,661	3,645	4,770	78,261	704,348	740,174	34,783	43,478	8,221	241	500
Margins														
Incremental margin	USD	641	974	2,370	1,439	766	27,809	41,373	71,264	24,342	16,486	2,040	111	200
	USD	563	766	1,804	1,062	248	18,991	32,890	63,517	20,246	3,145	1,858	91	155
IRR	%	11.1%	21.0%	13.4%	31.3%	45.3%	54.9%	74.7%	49.2%	23.2%	11.6%	11.3%	11.1%	24.5%
NPV	USD	1,707	1,986	2,317	7,871	1,372	75,532	144,904	278,348	54,098	4,894	3,274	130	586
Ratio B/C	N°	1.25	2.6	1.36	1.90	1.24	1.38	1.05	1.09	1.61	1.50	1.07	1.91	1.65

*When new activities / plantations are put in place, WOP margins are considered at the opportunity cost of equivalent amount of time, weighted by unemployment rates

32. Economic benefits. A stream of economic benefits derived from models was obtained using shadow prices to get economic values in models and aggregating given an estimated implementation calendar for realizations. In addition to this, economic benefits include positive externalities due to expected impacts in nutrition and health and in the environment, taking into consideration estimates on the level of emissions that could be avoided.



33. Environmental externalities in the economic analysis. Net GHG emissions reduction due to the project interventions are integrated into the EFA by using an economic value for carbon pricing with a high and low case scenario following the guidelines of the World Bank: “Guidance note on the shadow price of the carbon in the economic analysis” (September 2017). Net GHG emissions reduction is calculated by using the FAO 'Ex-ACT Tool (Annex 6). In terms of additional environmental benefits, based on the shadow price calculation using carbon price starting at US\$40 and US\$80 with the growth rate of 2.25 percent per year, the project would generate an additional US\$17.53 and US\$35.06 million for the economic lifetime of the project.

34. Economic benefits of reduction in undernutrition and wasting. Economic benefits of improving nutrition in poor societies is described in the literature as emerged from two main sources⁵⁶. One source of benefits is the impact estimated in the reduced healthcare costs and expenditures that otherwise would have been required or avoided costs (i.e., reduction in resources required to deal with mortality or morbidity). Malnutrition increases risks of mortality⁵⁷ and illnesses that hinders the wellbeing of individuals, requires increased resources for health care services, and results in loss of time in the productive activities of caregivers. The second source of economic benefits derives from the link between nutrition and productivity, measuring project’s impacts on malnutrition by estimating the expected increase in earnings of non-undernourished individuals. It is assumed that the project interventions have an impact on the beneficiary children’s ability to complete school and thereby earn higher wages in their adult life. The analysis includes the discounted stream of benefits in the form of incremental expected lifetime income plus avoided health care costs as a positive externality.

35. Since the project also has a large food distribution sub-component, the rations that will benefit children under 2 and 5 and pregnant and lactating are also expected to have a similar or even more effective impact on reducing malnutrition. This impact of the rations is also captured in the analysis by using conservative estimates on the percentages of malnutrition reduction. Key assumptions include that project impacts on nutrition can reach 20,000 households where malnutrition rates (wasting) would remain at the current 23 percent without project interventions but are expected to be reduced by 4 points due to project interventions. Also, an additional 328,000 children (164,000 under 2 years of age, and 164,000 under 5) would directly benefit from rations and would reduce malnutrition at the same rate of 4 percentage points over the four years. It is also assumed that a non-undernourished individual would have as much as a 15 percent increment on their annual salary estimated under a minimum monthly earning of the lowest quintile that is approximately US\$73 per month (42,000 YER/month) due to better rates of school attendance/completion, better cognitive ability and better health. Concerning avoided healthcare costs for those individuals for which wasting is averted, this saving is assumed at 15 percent of this cost per individual per year. The incremental benefit model forecasts the income and avoided health care costs during the project benefit lifespan for cohorts of newborns in targeted villages that will be economically active and will benefit from project interventions.

36. Economic costs. The economic analysis includes all the costs associated with the project. Besides, an estimate on recurrent costs required to enable the realization of benefits (maintenance, replacement, operation) is also included during the lifespan of benefits.

⁵⁶ Alderman, H., Behrman, J. R. and Hoddinott, J. 2007 “Economic and Nutritional Analyses Offer Substantial Synergies for Understanding Human Nutrition,” *J Nutr.* 2007 March; 137(3): 537–544.

⁵⁷ Probability of infant mortality, for example, is estimated to be significantly higher for low birth weight (LBW) than for non-LBW infants. When the impact of poor early nutrition is added to the effect of LBW, it is estimated that 56 percent of child deaths in developing countries are attributable to malnutrition.

37. Economic profitability. The economic analysis shows that the project is an economically viable investment for society. Using a social discount rate at 6 percent, the project net present value (NPV) is US\$117.39 million, with an economic internal rate of return EIRR of 16.26 percent for the base case scenario.

38. Following the World Bank guidelines on EFA and carbon accounting, economic profitability indicators are also estimated for two additional scenarios using a higher carbon price (HCP) assumption and a lower carbon price (LCP) assumption to include economic benefits derived from GHG emissions avoided. For the first case, under the high case scenario, the EIRR is estimated at 20.68 percent and the NPV is approximately US\$164.78 million. Under the low case scenario, the EIRR is 18.78 percent and the NPV was approximately US\$145.37 million.

39. Sensitivity Analysis. The robustness of these indicators was tested and confirmed with a sensitivity analysis assuming different risk scenarios. These include (a) increase in project costs (10 percent, 20 percent and 50 percent), (b) reduction in project benefits (10 percent, 20 percent and 50 percent), (c) combined scenarios (reduction in benefits and increase in costs), (d) delay in project benefits (1 and 2 years), and (e) occurrence of external shocks (climate change, prices, others) affecting overall benefits (every 2, 3 and 4 years). The project is assumed to be profitable and resilient, as profitability indicators remain in a positive range under most of scenarios. Table 3 shows a summary of results from the sensitivity analysis.

Table 11: Sensitivity analysis of economic indicators

Sensitivity Analysis							
	Δ%	Risk			EIRR	NPV (US\$)	
Base scenario							
					16.95%	125,955,843	
Benefits	-10%	Combined risks on sale prices, yields, adoption rates			15.53%	104,387,212	
	-20%				13.97%	82,818,581	
Costs	10%	Increase in expenses, input prices and unit costs			15.66%	116,982,796	
	20%				14.51%	108,009,750	
Delay 1yr in Benefits		Adoption rate / delays			14.72%	102,661,604	
Delay 2yr in Benefits					12.81%	80,703,910	
External Shock every 2 yr	50% Benefits	External shock (prices, quantities, climate)			14.66%	58,473,466	
External Shock every 3 yr	50% Benefits				15.39%	100,081,358	
Mixed Scenarios		Costs	10%	Benefits	-10%	14.27%	95,414,166
			10%		-20%	12.74%	73,845,535
			20%		-20%	11.64%	64,872,488
			20%		-30%	7.02%	9,139,642
			20%		-10%	13.14%	86,441,119

40. Finally, switching values (SV) for cost and benefits are also estimated. The SV for cost increments are 184 percent, 162 percent and 140 percent under the high case, low case and baseline scenarios respectively. Concerning reductions to economic benefits, SV are estimated at 65 percent, 62 percent and 58 percent for under the high case, low case and baseline scenarios, respectively.

41. The following table summarizes the economic profitability indicators for three scenarios discussed in this analysis. While the baseline scenario only considers net incremental economic benefits derived from the financial streams of the investments valued at economic prices, the high case and low case scenarios also include environmental co-benefits valued at low and high prices as per the World Bank guidelines on shadow pricing of carbon (2017). These results suggest that the project is expected to be an economically worthwhile investment from the perspective of society.



Table 12: Summary of economic indicators (US\$)

Indicator	Baseline	Low case	High case
EIRR (%)	16.95	18.78	20.68
ENPV (US\$ million)	125.96	145.37	164.78
Switching value for costs (%)	140.00	162.00	184.00
Switching value for benefits (%)	-58.00	-62.00	-65.00



ANNEX 6: Greenhouse Gas Accounting Analysis

COUNTRY: Yemen, Republic of Yemen Food Security Response and Resilience Project

1. **Corporate Mandate.** The GHG analysis has been carried out as part of a corporate mandate to conduct GHG emissions accounting for investment lending in relevant sectors. The ex-ante quantification of GHG emissions is an important step in managing and ultimately reducing GHG emissions, and it is becoming a common practice for many international financial institutions.

2. **Methodology.** To estimate the impact of agricultural investments on GHG emissions and carbon sequestration, the Ex-Ante Carbon-Balance Tool (EX-ACT v9), developed by the Food and Agriculture Organization of the United Nations (FAO) was used. EX-ACT allows the assessment of a project's net carbon balance, defined as the net balance of CO₂ equivalent (CO₂eq) GHG emitted or sequestered as a result of project implementation compared to a Without project (WOP) scenario. EX-ACT estimates the carbon stock changes (emissions or sinks), expressed in equivalent tons of CO₂ per hectare and year.

Project characteristics and assumptions

3. The proposed intervention aims to implement comprehensive efforts for strengthening climate resilience, and thereby improving the availability of and access to food and nutritious diets for targeted households in the project area, and enhancing Yemen's capacity to respond to food insecurity.

4. **Basic assumptions.** Yemen has a warm temperate climate with a dry moisture regime. The dominant soil type is High Activity Clay (HAC) soils. The implementation phase is four years and the capitalization phase is assumed to be 16 years. The "without project scenario" is assumed not to differ from the "initial scenario." The analysis further assumes the dynamics of change to be linear over the duration of the project.

5. **Crop production.** The project will promote different types of good and climate-smart agricultural technologies such as improved agronomic practices and agroforestry. These improved technologies would be introduced to 1,199 ha of perennial crops and 40,656 ha of annual crops. The good and climate-smart agronomic practices would focus on soil and water conservation, intercropping (cereals/legumes) and crop rotation; improved seeds (certified, drought-tolerant, early maturing seeds), crop protection - a critical practice in enhancing yields and quality, post-harvest management as well as community/farm level seed conservation methods.

6. **Grassland management and other land-use changes.** The project is expected to improve the degradation levels for 1,000 ha of grasslands through improved input application (seeds) and land use change to silvo-pasture. Additionally, 199 ha would be changed from annual fallow and cropland agroforestry land use.

7. **Livestock management.** The project would implement improved good and climate-smart management activities to a total of 1,374,214 heads of livestock, dairy cattle, goats, chicken and camels. The animal husbandry would focus on feeding practices with fodder and feed concentrates, supplementary feeding, animal health,



pasture management, dairy hygiene and processing and other areas of that would be identified by the beneficiaries.

Results

8. **Net carbon balance.** The net carbon balance quantifies GHGs emitted or sequestered as a result of the project compared to the without-project scenario. Over the duration of 20 years (implementation phase 5 years, capitalization 15 years), the project constitutes a carbon sequestration -354, 540 tCO₂e. The net annual emission is -17 727 tCO₂e. Per hectare, the project will sequester -8.5 tCO₂e which is -0.4 tCO₂e per year (see Table 12).

Table 13: Summary GHG Accounting Results

PROJECT COMPONENTS		GROSS FLUXES		
		In tCO ₂ -e over the whole period analysis		
		WITHOUT	WITH	BALANCE
Land use changes	Other land-use	0	-394	-394
	Annual	317,926	183,055	-134,871
Cropland	Perennial	0	-224,738	-224,738
Grasslands & Livestock	Grasslands	0	-40	-40
	Livestock	5,398,085	5,423,974	25,888
	Coastal wetlands	257,922	242,208	-15,713
	Inputs & Invest.	42,796	38,125	-4,672
Total emissions, tCO₂-e		6,016,729	5,662,190	-354,540
Total emissions, tCO₂-e/ha		143.6	135.1	-8.5
Total emissions, tCO₂-e/ha/yr		7.2	6.8	-0.4

9. **Carbon sources and sinks.** The main carbon source of the project is from livestock management. Improved management of grassland, agroforestry and improved agricultural technologies and practices will lead to a carbon sink for the project.