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INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT  
ON A  
PROPOSED CREDIT

IN THE AMOUNT OF SDR 145.4 MILLION  
(US\$200 MILLION EQUIVALENT)

TO THE

ISLAMIC REPUBLIC OF PAKISTAN

FOR A

LOCUST EMERGENCY AND FOOD SECURITY PROJECT

July 17, 2020

Agriculture And Food Global Practice  
South Asia Region

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## CURRENCY EQUIVALENTS

Exchange Rate Effective July 1, 2020

Currency Unit = PKR

US\$1 = 166

US\$1 = SDR 0.7269

FISCAL YEAR  
July 1 – June 30

Regional Vice President: Hartwig Schafer

Country Director: Patchamuthu Illangovan

Regional Director: John A. Roome

Practice Manager: Loraine Ronchi

Task Team Leader(s): Guo Li

## ABBREVIATIONS AND ACRONYMS

BISP	Benazir Income Support Program
Cfw	Cash for Work
COVID-19	Coronavirus Disease 2019
CPS	Country Partnership Strategy
CSA	Climate Smart Agriculture
DALO	Damages and Losses
DPP	Department of Plant Protection of MNFSR
ESMF	Environmental and Social Management Framework
ESRS	Environmental and Social Review Summary
ESS	Environmental and Social Standard
FAO	Food and Agriculture Organization of the United Nations
FG	Federal Government
FSNIS	Food Security & Nutrition Information System
GDP	Gross Domestic Product
GHOA	Greater Horn of Africa Region
IPC	Integrated Food Security Phase Classification
LEAFS	Locust Emergency and Food Security
M&E	Monitoring and Evaluation
MPA	Multiphase Programmatic Approach
MNFSR	Ministry of National Food Security and Research
NAP-DL-Pak	National Action Plan for Surveillance and Control of Desert Locust in Pakistan
NDMA	National Disaster Management Authority
NLCC	National Locust Control Center
NPD	National Project Director
PDMA	Provincial Disaster Management Authority
PDO	Project Development Objective
PG	Provincial Government
PMP	Pest Management Plan
PMU	Project Management Unit
PSC	Project Steering Committee
PPCC	Provincial Project Coordination Committee
PPIU	Provincial Project Implementation Unit
SWAC	Commission for Controlling the Desert Locust in South-West Asia
TOC	Technical Operational Committee



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## DATASHEET

## BASIC INFORMATION

Country(ies)	Project Name		
Pakistan	Pakistan: Locust Emergency and Food Security Project		
Project ID	Financing Instrument	Environmental and Social Risk Classification	Process
P174314	Investment Project Financing	Substantial	Urgent Need or Capacity Constraints (FCC)

## Financing &amp; 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 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 type="checkbox"/> Conflict
<input type="checkbox"/> Deferred Drawdown	<input checked="" type="checkbox"/> Responding to Natural or Man-made Disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	<input type="checkbox"/> Hands-on Enhanced Implementation Support (HEIS)

Expected Approval Date	Expected Closing Date
30-Jul-2020	30-Jun-2023

Bank/IFC Collaboration

No

## Proposed Development Objective(s)

To control the locust outbreak, restore livelihoods in locust-affected areas, and strengthen Pakistan's national food security monitoring and management system.

**Components**

<b>Component Name</b>	<b>Cost (US\$, millions)</b>
Component 1 Surveillance and Control Measures	104.00
Component 2: Livelihood Protection and Rehabilitation	50.00
Component 3: Early Warning Preparedness and Food Security	26.00
Component 4: Project Management, Monitoring and Evaluation	20.00

**Organizations**

Recipient:	Islamic Republic of Pakistan
Implementing Agency:	Ministry of National Food Security and Research, Government of Pakistan Agricultural, Supply & Prices Department, Government of Sindh Agriculture Department, Government of the Punjab Department of Agriculture, Government of Khyber Pakhtunkhwa Agriculture and Cooperatives Department, Government of Balochistan

**PROJECT FINANCING DATA (US\$, Millions)****SUMMARY**

<b>Total Project Cost</b>	200.00
<b>Total Financing</b>	200.00
<b>of which IBRD/IDA</b>	200.00
<b>Financing Gap</b>	0.00

**DETAILS****World Bank Group Financing**

International Development Association (IDA)	200.00
IDA Credit	200.00

**IDA Resources (in US\$, Millions)**

	<b>Credit Amount</b>	<b>Grant Amount</b>	<b>Guarantee Amount</b>	<b>Total Amount</b>
<b>Pakistan</b>	200.00	0.00	0.00	200.00



IDA	75.00	0.00	0.00	75.00
Regional IDA	125.00	0.00	0.00	125.00
<b>Total</b>	<b>200.00</b>	<b>0.00</b>	<b>0.00</b>	<b>200.00</b>

## INSTITUTIONAL DATA

### Practice Area (Lead) Contributing Practice Areas

Agriculture and Food

### Climate Change and Disaster Screening

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

## SYSTEMATIC OPERATIONS RISK-RATING TOOL (SORT)

Risk Category	Rating
1. Political and Governance	● Substantial
2. Macroeconomic	● Substantial
3. Sector Strategies and Policies	● Moderate
4. Technical Design of Project or Program	● Moderate
5. Institutional Capacity for Implementation and Sustainability	● Substantial
6. Fiduciary	● Substantial
7. Environment and Social	● High
8. Stakeholders	● Moderate
9. Other	N/A
10. Overall	● Substantial

## COMPLIANCE

### Policy

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

[ ] Yes [✓] No



Does the project require any waivers of Bank policies?

[ ] Yes [√] No

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

E & S Standards	Relevance
ESS 1: Assessment and Management of Environmental and Social Risks and Impacts	Relevant
ESS 2: Labor and Working Conditions	Relevant
ESS 3: Resource Efficiency and Pollution Prevention and Management	Relevant
ESS 4: Community Health and Safety	Relevant
ESS 5: Land Acquisition, Restrictions on Land Use and Involuntary Resettlement	Relevant
ESS 6: Biodiversity Conservation and Sustainable Management of Living Natural Resources	Relevant
ESS 7: Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities	Relevant
ESS 8: Cultural Heritage	Relevant
ESS 9: Financial Intermediaries	Not Relevant
ESS 10: Stakeholder Engagement and Information Disclosure	Relevant

**NOTE:** For further information regarding the 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**

1. The Recipient shall vest the overall responsibility for the implementation of the Project in its Ministry of National Food Security and Research (MNFSR) and shall establish, no later than two (2) months from the Effective Date, within this ministry and thereafter maintain, throughout the period of implementation of the Project, the Project Management Unit (PMU) with the composition, resources and terms of reference satisfactory to the Association and adequate for successful implementation of the Project.
2. For the purposes of overall coordination and supervision of the Project the Recipient shall establish, no later than two (2) months from the Effective Date, and thereafter maintain, throughout the period of implementation of the Project, the Project Steering Committee chaired by the Minister of National Food Security and Research, with the composition, resources and terms of reference satisfactory to the Association.



3. The Recipient, through MNFSR, shall collaborate and cause the respective Provincial Governments to, establish in each Province, no later than two (2) months from the Effective Date, and thereafter maintain, throughout the period of implementation of the Project: (a) a Provincial Project Implementation Unit (PPIU) for the purposes of day-to-day implementation and management of Project activities within the respective Province; and (b) a Provincial Project Coordination Committee (PPCC) for the purposes of overall coordination and supervision of the Project activities within the respective Province; all with the composition, resources and terms of reference satisfactory to the Association.

**Conditions**

1. No withdrawal shall be made:
  - (a) for payments made prior to the Signature Date, except that withdrawals up to an aggregate amount not to exceed SDR 29,080,000 may be made for payments made prior to this date but on or after April 1, 2020, for Eligible Expenditures under Categories (1)(b) and (2); or
  - (b) under Category (1)(a) unless Pest Management Plan (PMP), satisfactory to the Association, has been adopted by the Recipient pursuant to the provisions of the Environmental and Social Commitment Plan.



## I. STRATEGIC CONTEXT

### A. Regional and Country Context

1. **Pakistan is at a crossroads as it deals with the double threat of the coronavirus 2019 disease (COVID-19) pandemic and the spread of locusts.** Periodic macroeconomic crises and a low human capital basis have constrained the country's growth prospects. Over the last two decades, economic growth in Pakistan has averaged at 4.4% a year, below the South Asian annual average of 6.3%. Low investment in human capital, slow progress of structural reforms, low private investment and slow export growth due to an overvalued currency coupled with a non-competitive import tariff structure have hindered growth prospects. The country was making good progress in stabilizing its economy and implementing much needed structural reforms. However, the COVID-19 pandemic and the locust swarm will have significant negative impacts on the economy. The closure of businesses and disruption to supply chains are significantly affecting the services and manufacturing sectors, which account for nearly 80% of total gross domestic product (GDP). As a result, the economy is expected to contract between 2.6 and 3.3% in FY20, and between 0.2 and 4.0% in FY21, compared to pre-COVID19 projections for growth of 2.4% for FY20 and 3.0% for FY21.
2. **Locust spread is reaching an alarming level in Pakistan and will further exacerbate the economic and poverty challenges created by the COVID-19 crisis.** According to the Government of Pakistan's estimate, in the worst-case scenario, the agricultural loss could reach over \$15 billion, including both *rabi* and *kharif* crops. This is a significant risk in Pakistan, where about 20% of the population (around 40 million people) is undernourished, 40% of the population experience multi-dimensional poverty, and 25% of the population is living under the national poverty line. Without urgent and effective actions to control the crisis, the food security situation and the prospects of agricultural development will deteriorate at a time when the country is responding to the socio-economic impacts of the COVID-19. The newest generations of locusts are emerging at the same time as the new season's crops, and experts fear that up to 100% of new crops in locust-affected areas could be lost, unless effective control measures are taken. In the absence of effective measures to control the locust emergency, the downside scenario of a 4.0% contraction in the real GDP in FY21 is likely to materialize. Effectively controlling outbreaks in the desert locust prone areas of Pakistan is critically important for protecting agriculture production systems and ensuring food security.
3. **The proposed Locust Emergency and Food Security Project (the Project) is part of the World Bank's global locust emergency response and also contributes to the Bank's COVID-19 Response Strategy** (see Relevance to Higher Level Objectives section). Pakistan occupies a prominent regional position since it has two breeding seasons. The country is not only more vulnerable to locust plagues, but any lapse in effective control in Pakistan, particularly in the Balochistan desert area, will increase the locust spread to neighboring countries and beyond. Strengthening Pakistan's locust surveillance and control would bring significant benefits to the region. Around 38% of the country's geographic area is the breeding/recession area for desert locust, while the rest of the country is at risk of invasion. Pakistan is one of four countries (out of a total of 64 desert locust prone countries) that has two breeding seasons. Since early 2019, the population of desert locusts has been increasing exponentially, and it is now beyond the control of standard interventions. The current outbreak is the worst in the past 25 years. The desert locust is the most dangerous migratory pest in the world, with a voracious appetite, high mobility aided by wind patterns, and a 20-fold increase in population with each generation over a 4-6-month period.<sup>1</sup> These traits are a formidable threat to lives and livelihoods making it extremely difficult and costly to combat.
4. **The locust outbreak threatens to further reduce the gains in poverty reduction made over the last 14 years,**

<sup>1</sup> FAO - Desert Locust Information Service of the Migratory Pests Group, Frequently Asked Questions.



**which are already under threat from the COVID-19 crisis, particularly in the rural areas.** Decline in remittances and off-farm activities as a result of the COVID-19 pandemic are likely to have a negative impact on the welfare of households living in rural areas. While agriculture has so far been the sector least affected by the economic disruptions associated with COVID-19, households relying on farming – and particularly small farmers – remain extremely vulnerable to shocks and exposed to the risk of poverty. Given the expected decline in off-farm employment opportunities due to the pandemic, the locust emergency is likely to compound the negative impacts of COVID-19 on welfare, further decreasing households' capacity to diversify income sources outside agriculture to cope with shocks. The Project supports Pakistan to combat the pandemic and its disruptions to the agriculture sector and aligns with Pillars 2 (Protecting the Poor and Vulnerable) and Pillar 3 (Ensuring Sustainable Business Growth and Job Creation) of the World Bank COVID-19 Strategy by promoting alignment and coordination among development partners and provincial and federal governments, protecting agriculture production systems and ensuring food security for the most vulnerable.

**5. Regional coordination on locust control needs to be strengthened.** The Food and Agriculture Organization of the United Nations (FAO) is mandated to promote and coordinate regional desert locust control through the Commission for Controlling the Desert Locust in South-West Asia (SWAC). To strengthen SWAC regional cooperation, a ministerial meeting was organized by FAO on March 11, 2020. A Technical Operation Committee (TOC) under SWAC meets weekly to assess, review and monitor the desert locust situation. However, there is a need to mobilize more resources to strengthen regional coordination and collaboration, for example, on joint surveys, surveillance and control operations.

**6. Climate change poses a significant risk to Pakistan and creates favorable conditions for locust spread.** The Global Climate Risk Index ranks Pakistan among the top 10 most climate-vulnerable countries. During the past decade, recurrent extreme weather events (floods, droughts and glacial lake outburst floods) have adversely affected the lives and livelihoods of vulnerable populations living in disaster hotspots. In 2019, Pakistan was among 55 countries where extreme weather events resulted in an increased level of acute food insecurity. The desert locust spread in Pakistan is also a consequence of changing climatic conditions. The 2020 Global Food Report warns of the likely adverse impact of the locust infestation on food production and vulnerable farming households.

## B. Sectoral and Institutional Context

**7. Agriculture is the backbone of Pakistan's economy.** Pakistan's annual population growth rate remains high at 2.4% and the country is rapidly urbanizing, putting pressure on the agriculture sector to not only increase production, but to also respond to changing and diversifying food consumption patterns. Food security is considered a national strategic priority by both federal and provincial governments. In recognition of the sector's importance for GDP growth, as well as social stability, the Government of Pakistan aims to stimulate agricultural growth by reforming policies, improving water productivity, preventing natural disasters, and supporting high-value crops.

**8. The Government declared a national emergency on the desert locust outbreak on January 31, 2020.** The Government of Pakistan developed a National Action Plan for Surveillance and Control of Desert Locust (Annex 2), focused on surveillance, prevention and control of the locust infestation across affected provinces. A National Locust Control Center (NLCC) was established which comprises key federal and provincial agencies such as Ministry of National Food Security and Research (MNFSR), Department of Plant Protection (DPP), National Disaster Management Agency (NDMA) and provincial governments to oversee and coordinate actions across provinces to maximize effectiveness.

**9. MNFSR, through DPP, is the designated body leading locust control efforts.** The Ministry was established in 2011 following the 18<sup>th</sup> amendment to the Constitution (2010) which replaced the Ministry of Food and Agriculture. Over time, the budget of MNFSR and its capacity has declined. There is no effective surveillance system with equipment for monitoring, early warning, forecasting, data collection and dissemination. Equipment for control operations is obsolete



and coordination functions, both horizontal and vertical, are weak. The Project is a direct response to the emerging consensus that MNSFR, the DPP and provincial capacity must be strengthened to deal with national issues. The Project will also support more effective coordination with regional locust control bodies (e.g. SWAC) to deal with a locust outbreak of this scale and magnitude.

10. **The impact of the locust outbreak, together with the ongoing COVID-19 pandemic, calls for a strengthened Food Security and Nutrition Information System (FSNIS) in Pakistan.** This system will build and strengthen MNFSR inhouse capacity to undertake timely analysis for high quality decision-making. Currently, neither the federal government nor provincial governments have a well-functioning system to monitor the food sector and conduct full-spectrum analyses. Information provided by the existing systems (e.g., crop reporting services, provincial bureau of statistics) at different levels are neither comprehensive nor up to the standard required for a quality decision-making process and effective control measures necessary to safeguard wider national interests.

#### C. Relevance to Higher Level Objectives

11. **The Project is aligned with the World Bank Group's Pakistan Country Partnership Strategy (CPS) for fiscal year 2015-20,<sup>2</sup> as well as "Pakistan@100: Shaping the Future" which highlights the necessary reforms required for Pakistan to become an upper-middle income country by 2047.** Project activities on locust control will contribute directly to the CPS's outcomes on reduced vulnerability for groups at risk (Outcome 3.2) and increased productivity in farms (Outcome 2.2).

12. **The Project is in line with the government's National Food Security Policy,** which seeks to attain sustainable food production, eradicate hunger and malnutrition, and make agriculture more productive and climate resilient. It also contributes to Sustainable Development Goal-Zero Hunger which intends to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture. Finally, the Project is well-aligned with the prime minister's Agriculture Emergency Program and will build the capacity of institutions to effectively implement the National Action Plan for Surveillance and Control of Desert Locust.

13. **As part of the World Bank's global locust emergency response program, the Project considers the global approach and lessons from the Emergency Locust Response Program Multiphase Programmatic Approach (P173702 (MPA).** By aligning with the MPA, Pakistan will not only benefit from lessons learned from the global response but can also share its experiences with other countries, particularly those in the South Asia region. The Project is also part of the World Bank COVID-19 Strategy and supports Pakistan to combat the pandemic and its disruptions to the agriculture sector and aligns with Pillars 2 (Protecting the Poor and Vulnerable) and Pillar 3 (Ensuring Sustainable Business Growth and Job Creation) of the World Bank COVID-19 Strategy by promoting alignment and coordination among development partners and provincial and federal governments, protecting agriculture production systems and ensuring food security for the most vulnerable. Bank management has approved the application of Paragraph 12, Section III of the Investment Project Financing (IPF) Policy which allows for project processing under condensed procedures, pursuant to the Bank's procedure "Preparation of Investment Project Financing – Situations of Urgent Need of Assistance or Capacity Constraints".

#### II. PROJECT DESCRIPTION

14. **The Project is selected for emergency response financing because Pakistan's food security and sustainability**

<sup>2</sup> World Bank. 2014. Islamic Republic of Pakistan: Country Partnership Strategy, 2015-2020 (Report No. 84645-PK) and the Performance and Learning Review (Report No. 113574)



**of the agriculture sector is in jeopardy.** Desert locust breeding and hatching are progressing at an alarming rate in Pakistan, which carries important regional implications. According to FAO, Pakistan is an important front-line country for the desert locust given its two breeding seasons. Successfully controlling the locust outbreak in Pakistan will bring significant public goods to the South Asia region, which provides strong justification for mobilizing regional IDA funding (see Annex 3). Given the locust spread across South Asia, the Horn of Africa, and the Arabian Peninsula, Pakistan is an indispensable part of the global effort to combat the existing locust crisis.

15. **The Project's theory of change can be summarized as follows:** Pakistan's agriculture sector is facing a serious desert locust outbreak. Compounded by the impact of the COVID-19 pandemic and climate change, farmers' livelihoods, national food security, and the sustainability of agriculture are at risk. The Project will introduce a set of customized activities, such as locust surveillance and control operations, rehabilitating livelihoods of affected rural communities and farmers, strengthening and operating the FSNIS, and emphasizing climate-smart agriculture (CSA) measures and women's participation to effectively address the desert locust emergency and reduce vulnerability to climate change in the long-term. These activities will be implemented through a strengthened and better coordinated federal-provincial government system. The expected outcomes include an improved disaster response system, a more stable agriculture production system, improved resilience of farmers' livelihoods against climate-induced risks and strengthened public service delivery. The outcomes will contribute to a more resilient and vibrant national economy in Pakistan (see Section D: Results Chain). Better locust control in Pakistan will reduce the spread of the locust plague in other parts of the region.

#### A. Project Development Objective

16. **The Project Development Objective (PDO)** is to control the locust outbreak, restore livelihoods in locust-affected areas, and strengthen Pakistan's national food security monitoring and management system.

17. The PDO will be measured by the following indicators:

- i) Control of desert locust outbreak
  - Affected agricultural land area restored to productivity (percentage/hectare)
  - Affected pasture/rangeland restored to productivity (percentage/hectare)
  - Early warning system developed, functioning and sustainable (yes/no)
  - Regional coordination on locust surveillance and control strengthened (yes/no)
- ii) Beneficiaries of livelihoods protection and restoration activities (by type of intervention and gender)
  - Affected households supported with cash- or inputs-based assistance (number, by gender)
  - Locust-affected farmers (including livestock owners) report renewed agricultural activity (percentage, by gender)
- iii) National food security system
  - National food security and nutrition information system strengthened and functioning (yes/no)

#### B. Project Components

18. **Component 1: Surveillance and control measures (\$104 million, of which \$93 million is regional IDA funding).** This component will improve the capacity for surveillance of breeding and infestation areas and gathering meteorological data. It will also support locust control activities (application of pesticides) and implement risk mitigation measures for workers and affected communities. The component will also improve pesticide management and upgrade infrastructure for safe storage, including disposal of obsolete pesticides and pesticide containers. To avoid duplication, coordination with other Bank-financed disaster response projects will be sought. Furthermore, special effort will be made to support



women's participation in locust surveillance and control. Operational and technical capacities built under this component, for both federal and provincial institutions, will not only cover surveillance and control of desert locust, but also enable concerned institutions to execute surveillance and control measures for other transboundary/migratory pests.

19. **Sub-component 1.1: Pest surveillance (\$30 million, of which \$26 million is regional IDA funding).** This sub-component will support strengthening the locust surveillance system at national, provincial, and district levels to enable undertaking of continuous surveillance, mapping, monitoring and reporting on the locust spread in invaded and locust prone areas. Activities will include monitoring breeding and egg-laying areas to inform early action, conducting ground surveys and other data collection to assess the locust situation and habitat conditions, and analyzing data to inform planning and application of appropriate control methods.

20. **Sub-component 1.2: Control measures (\$64 million, of which \$58 million is regional IDA funding).** This sub-component will undertake measures to reduce locust populations and prevent their spread to new areas, including application of pesticides. Locust control measures will be undertaken mainly through targeted ground and aerial control operations. Whenever possible, and facilitated by surveillance and reporting, these would be aimed at neutralizing hopper bands on the ground before they develop into adult swarms, to minimize the need for aerial application of conventional pesticides. FAO technical assistance is expected to be mobilized for both ground and aerial application of pesticides.<sup>3</sup> A Pest Management Plan (PMP) will be developed under Bank support and guidance in collaboration with DPP. The PMP will help guide management on the use and disposal of pesticides, occupational health and safety requirements per FAO guidelines, and good international industry practice. DPP, provincial agriculture departments and district administration office rapid response teams will jointly lead this locust control exercise. Training and capacity building of response teams will also be supported.

21. **Sub-component 1.3: Risk reduction and management (\$10 million, of which \$9 million is regional IDA funding).** This sub-component will support: (i) testing of humans, and soil and water for contamination from use of pesticide, estimating the cost and the effects of locust control on crop, pastures and livestock production; (ii) optimizing the selection of control strategies, implementing protection measures, and selecting pesticides based on situational and environmental assessments; and (iii) providing safety and awareness training for spraying teams and other locust control personnel. Environmental and human health risks associated with locust control will be monitored to inform implementation of health, environmental and safety measures and to reduce risks to an acceptable minimum. Monitoring of control operations is necessary to assess whether adverse effects occur so that they can be mitigated. Activities will be guided by the Bank's various Environmental and Social Framework instruments to be prepared by the implementing agencies, under guidance of Bank Environmental Social Standards specialists, including the PMP, Environmental and Social Management Framework (ESMF) and Labor Management Procedures. These are suggested in the ESRS, under Environmental and Social Standard (ESS) 1, ESS2 and ESS3, and committed under the Environmental and Social Commitment Plan by the implementing agencies.

22. Specific support will be extended to women in treating the larvae centers and strips, training and incentivizing rural women to prevent the reuse of pesticide packaging materials at home and employing rural women to keep children away from chemical products and storage areas. Human testing for pesticide exposure may also be combined with testing for COVID-19 infection.

23. **The COVID-19 pandemic** presents special risks and implementation challenges for the Project. To manage these risks the Project will make available personal protective equipment to all staff members and project operators, will

<sup>3</sup> FAO technical assistance will be financed through the Project (see Financial Management section).



abstain to the extent possible from the use of cash, and will implement the standard operating procedures set by federal and provincial governments to contain the spread of COVID-19. In the Cash for Work (CfW) operations (see sub-component 2.1), these principles will be equally applied.

**24. Component 2: Livelihood protection and rehabilitation (\$50 million).** A robust protection scheme that ensures immediate relief to affected farmers and livestock owners will have two types of measures: (i) creation of temporary and self-employment opportunities; and (ii) restoration of lost assets. Duration of the assistance and funding ceiling for individuals will be established in the Operations Manual. Environmental risks associated with this component are minimal, however, social risks may include those related to elite capture and possible social exclusion of marginalized populations from cash-based assistance and livelihood restoration (where relevant, these can be in-kind support on need basis) and recovery sub-components; agricultural transformation activities may lead to introduction of newer farming techniques, which may not benefit small farmers due to their smaller landholdings, and result in reduced attention from agricultural extension schemes. These livelihood protection and rehabilitation activities will reduce internal migration of laborers and farmers in search of livelihoods and food security. Sub-components 2.1 and 2.2 will respond to these risks through a social assessment to be conducted under ESS1, as described in the ESRS. Component 2 will support agriculture transformation and enhance resilience to climate change through the promotion of climate-smart crop and livestock management practices, and diversification towards high value crops where market opportunities and connectivity exists or can be developed.

**25. Sub-component 2.1: Cash-based assistance for temporary employment creation and food security (\$15 million).** This sub-component will support provision of cash-based assistance to vulnerable and locust-affected households through temporary and self-employment creation and for food security, in accordance with eligibility criteria and procedures set forth in the Operations Manual. Specifically, CfW will provide temporary income support to poor and resource deficient farming households by engaging them in unskilled work. CfW will be offered for three months during the lean period. CfW will focus on improving local flora in the locust habitat area to reduce locust migration; and on community livelihood improvements, such as upgrading drinking water systems, trash collection, rehabilitating tertiary irrigation channels, constructing water harvesting ponds, or building community access roads and other community-based infrastructure. To avoid duplication with other social protection schemes, beneficiary identity cards will be checked against existing databases of social protection programs in operation in Pakistan. Targeting under this sub-component will benefit from assessments carried out under ESS1, which will add value to the selection of areas, households, and type of support required.

**26. Sub-component 2.2 Livelihood restoration and early recovery (\$30 million).** This sub-component will support: (i) provision of cash grants, electronic vouchers or an improved, climate-adaptive *rabi* and *kharif* crop production package to the locust-affected farmers in accordance with the eligibility criteria and procedures set forth in the Operations Manual; (ii) need-based livestock animal feeding support and disease control; (iii) adoption of climate-smart agriculture and livestock management practices; (iv) adoption of community/village level integrated natural resource management through rehabilitating community-based infrastructure; (v) improving local flora in the locust habitat area that can help in the locust pre-migration control mechanism; (vi) fruit orchards rehabilitation and support to commercial vegetable farming; and (vii) support to vulnerable farming households through activities to enhance livelihoods and production capacity. Farmers affected by locust may apply for a recovery grant at the district office and after verification will receive a cash payment, an electronic voucher or in-kind support can be considered on need basis where relevant. Public extension services will support recovery activities and aid in the adoption of CSA and improved livestock management practices.<sup>4</sup> Compensation will be based on damage assessments to be carried out by district administration offices but

<sup>4</sup> Integrated natural resource management, rehabilitation of degraded lands, increasing soil carbon pools, and the establishment of fruit orchards have the potential to enhance agro-ecosystem resilience to climate change and restore soil carbon. Climate-adaptive agronomic



will be bound by a maximum value to be defined per province. Priority will be given to smallholder farmers and female-headed households. The eligibility criteria for smallholders will depend on the geographical context and the agriculture system of the cropped area. An ESS1 social assessment will provide guidance on inclusion, equity and targeting for sub-component eligibility criteria.

**27. Sub-component 2.3. Strengthening resilience and promoting agriculture transformation (\$5 million).** This sub-component will strengthen farmers' capacity to plant high value crops, adopt climate smart agriculture technologies, upgrade post-harvest management, and engage with the private sector, such as agro-processing business and, input traders. A farmer field school approach, successfully tested in some provinces, will be used to implement activities. The promoted CSA practices such as conservation agriculture, no tillage practices, or alternate wetting and drying of rice, and improved irrigation water management have high potential to address chronic challenges to Pakistan's agricultural sector, namely drought, flood, and intense heat, and will yield climate mitigation co-benefits through soil carbon sequestration and methane emission reductions.<sup>5</sup>

**28. Component 3: Early warning preparedness and food security (\$26 million, of which, \$22 million is regional IDA funding).** This component will strengthen: (i) national capacity for early warning and early response, linking these efforts to regional (international) and provincial (domestic) existing locust surveillance and control networks; and (ii) the capacity of MNFSR by augmenting the FSNIS. Considering that climate change could increase the risk of locust outbreaks in the future, investments under this component are particularly relevant to the protection of rural livelihoods. By strengthening the regional coordination mechanism (through SWAC), this information will help neighboring countries to prepare and respond in a timely manner to locust outbreaks.

**29. Sub-component 3.1: Strengthening the national locust surveillance system (\$15 million, of which \$13 million is regional IDA funding).** This sub-component will support: (i) Strengthening institutional capacity in information management and the use of RAMSES (Reconnaissance and Management System of the Environment of Schistocerca) to facilitate rapid data analysis, early warning, and forecasting; (ii) upgrading the existing system with state of the art technology and devices; and (iii) capacity building in formulating an early warning and preparedness plan based on improved availability and accuracy of data. The early warning and preparedness plan will provide a consolidated set of immediate actions, measures, procedures, resource requirements for any impending locust infestation, and a clearly defined response and communication mechanism. The national locust surveillance system will also issue periodic forecasts and warnings to all concerned departments for appropriate planning and timely action. To complement these efforts, the technical and operational capacity of the NLCC and Provincial Locust Control Centers will be enhanced for effective coordination to benefit from an improved early warning and preparedness mechanism.

**30. Sub-component 3.2 Strengthening linkages with the regional network for early warning and preparedness (\$1 million, all of which is regional IDA funding).** This sub-component will support strengthening capacity to conduct regional coordination of desert locust surveillance and control, through improved information exchange, organization of conferences and workshops, contingency planning, and coordination of control operations in border areas. Regional coordination of locust control is organized through the FAO-led SWAC, comprised of representatives from Pakistan, India, Iran, and Afghanistan. It coordinates locust eradication efforts of its member countries through technical support and regular capacity building programs. It also furnishes the opportunity to its member countries for collaboration, information sharing on the movement of locust swarms for early warning, preparedness, and exchange of best practices

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practices similarly have the potential to increase climate resilience (for instance use of drought tolerant seeds, seasonal-adapted planting times), restore carbon in the soil (for instance crop rotation with legumes, integrated soil fertility management and cultivation of improved fodder crops) and reduce greenhouse gas emissions. Improved livestock feeding practices may include more concentrates, oilseeds and oils, which simultaneously raise productivity and reduce greenhouse gas emissions.

<sup>5</sup> CIAT and World Bank (2017). Climate-Smart Agriculture Country profile. Pakistan.



and lessons learned.

31. **Sub-component 3.3. Strengthening the FSNIS (\$10 million, of which \$8 million will be regional IDA funding).** This sub-component will support strengthening FSNIS decision-making capacity, improving the system for higher quality data collection, conducting urgent research, and assisting in developing food security policies. The locust crisis, together with the ongoing COVID-19 pandemic, threatens Pakistan's national food security. Strengthening the FSNIS and ensuring its proper functioning is a matter of urgency. Specific activities include: (i) promoting better coordination among existing branches (e.g., Food Security Commissioners, Commodity Commissioners, Animal Husbandry Commissioners, and the Agriculture Policy Institute); (ii) enhancing the operational capacity of the Economic Wing/Economic Consultant; (iii) improving coordination with crop reporting services of provincial agriculture departments; (iv) operating the strategic food reserve system; (v) building technical capacity at the MNFSR for preparing analytical reports such as food forecast, agriculture outlook, Pakistan overview of food security and nutrition, food price and Market Monitor bulletins; (vi) conducting critical analyses of agriculture policies; and (viii) delineating mechanisms for better coordination between federating units and federal level. The Project will also conduct an in-depth study to examine locust and COVID-19 long-term impacts on Pakistan's agriculture sector.

32. **Component 4: Project management, monitoring and evaluation (\$20 million, of which \$10 million is regional IDA funding).** The objective of this component is to support: Project administration and coordination at the federal and provincial levels; transparency and accountability in financial management, procurement, environmental and social risk management; information dissemination and monitoring and evaluation; and community mobilization and stakeholders' engagement. The component will support implementation of such other activities as may be required for effective Project implementation as stipulated in the Operations Manual. This component will build capacity for better data management on locusts and facilitate experience sharing, to the benefit of Pakistan and other countries in the South Asia region.

33. **Sub-component 4.1: Project administration and coordination (\$12 million, of which \$6 million is regional IDA funding).** Specific activities include: (i) coordinating and facilitating the operations of federal and provincial level agencies; (ii) ensuring sufficient and timely information flow between the PMU, Project Steering Committee (PSC), and NLCC; (iii) facilitating data collection, information sharing and early warning systems and hiring of desert locust control experts to support national efforts; (iv) conducting necessary procurement to support PMU implementation and coordination; and (v) facilitating district technical teams to create continuous awareness and information dissemination.

34. **Sub-component 4.2 Enhancing transparency, accountability and anti-corruption (\$3 million, of which \$1.5 million is regional IDA funding).** This sub-component will support community mobilization, operation of a robust grievance redress mechanism, and cooperation with relevant institutions to improve their transparency, accountability, and anti-corruption efforts in the operation. Mitigating the risk of elite capture, ensuring transparency of the implementation process, and safeguarding public resources in financial management and procurement processes are crucial for the Project's success.

35. **Sub-component 4.3. Management information system, monitoring and evaluation (\$3 million, of which \$1.5 million is regional IDA funding).** This sub-component will provide support to: (i) monitoring inputs, outputs and processes; (ii) impact evaluation of Project interventions, as well as environmental and social impact assessments; and (iii) generation of learning outcomes. The Project will have one Management Information System based at the MNFSR PMU. Monitoring and evaluation (M&E) activities will consist of regular monitoring of implementation progress and performance and independent process monitoring, including regular assessments of community-level planning and reviews of the effectiveness and quality of capacity-building efforts. In addition, baseline, mid-term and end-of-project, as well as annual thematic studies including the assessment of the impact of the desert locusts on crops and pastures, and on food and nutrition security of the affected populations shall be conducted jointly by DPP (MNFSR) and provincial



agriculture departments. Both the federal PMU and Provincial Project Implementation Units (PPIUs) will need to report data using the agreed results framework of the PAD (Section VII). In addition, the Project will commission studies related to the impacts of COVID-19 on agriculture.

**36. Sub-component 4.4: Communications and stakeholder engagement (\$2 million, of which \$1 million is regional IDA funding).** This sub-component will support: (i) the dissemination of information generated by the early warning systems; (ii) aid in recovery activities and promote the resilience of communities as they rebound from the crisis; (iii) community awareness programs on the effects and risks of locust outbreaks such as the proper types of pesticides to be used and appropriate mechanisms for their application in a sustainable manner; and (iv) capacity building in the area of communications within the PMU and PPIUs for the effective development and implementation of a communications strategy, impact assessment and dissemination of results achieved through this intervention. As per ESS10 guidance, a preliminary Stakeholder Engagement Plan has been prepared by the implementing agencies which focuses on identification of and engagement with directly affected parties, other interested parties and vulnerable groups. Procedures for engaging with them, topics and frequencies are described in the document. A strategy for communications across the region will also be elaborated. Communication activities will help to manage the reputational risks that surround the Project.

**Table 1. Project Cost Summary (\$ million)**

	Project Cost	IDA Credit Financing	IDA Regional Financing
<b>Component 1: Surveillance and Control Measures</b>			
Sub-component 1.1: Pest surveillance	30	4	26
Sub-component 1.2: Control measures	64	6	58
Sub-component 1.3: Risk reduction and management	10	1	9
<b>Subtotal</b>	<b>104</b>	<b>11</b>	<b>93</b>
<b>Component 2: Livelihood Protection and Rehabilitation</b>			
Sub-component 2.1: Cash-based assistance for temporary employment creation and food security	15	15	0
Sub-component 2.2: Livelihood restoration and early recovery	30	30	0
Sub-component 2.3: Strengthening resilience and promoting agriculture transformation	5	5	0
<b>Subtotal</b>	<b>50</b>	<b>50</b>	<b>0</b>
<b>Component 3: Early Warning Preparedness and Food Security</b>			
Sub-component 3.1: Strengthening the national locust surveillance system	15	2	13
Sub-component 3.2: Strengthen linkages with the regional network for early warning and preparedness	1	0	1
Sub-component 3.3: Strengthening FSNIS	10	2	8
<b>Subtotal</b>	<b>26</b>	<b>4</b>	<b>22</b>
<b>Component 4: Project Management, Monitoring and Evaluation</b>			
Sub-component 4.1: Project Administration and Coordination	12	6	6
Sub-component 4.2: Enhancing Transparency, Accountability and Anti-corruption	3	1.5	1.5
Sub-component 4.3: Management information System, Monitoring & Evaluation	3	1.5	1.5
Sub-component 4.4: Communications and Stakeholder Engagement	2	1	1
<b>Subtotal</b>	<b>20</b>	<b>10</b>	<b>10</b>
<b>Grand total</b>	<b>200</b>	<b>75</b>	<b>125</b>



### C. Project Beneficiaries

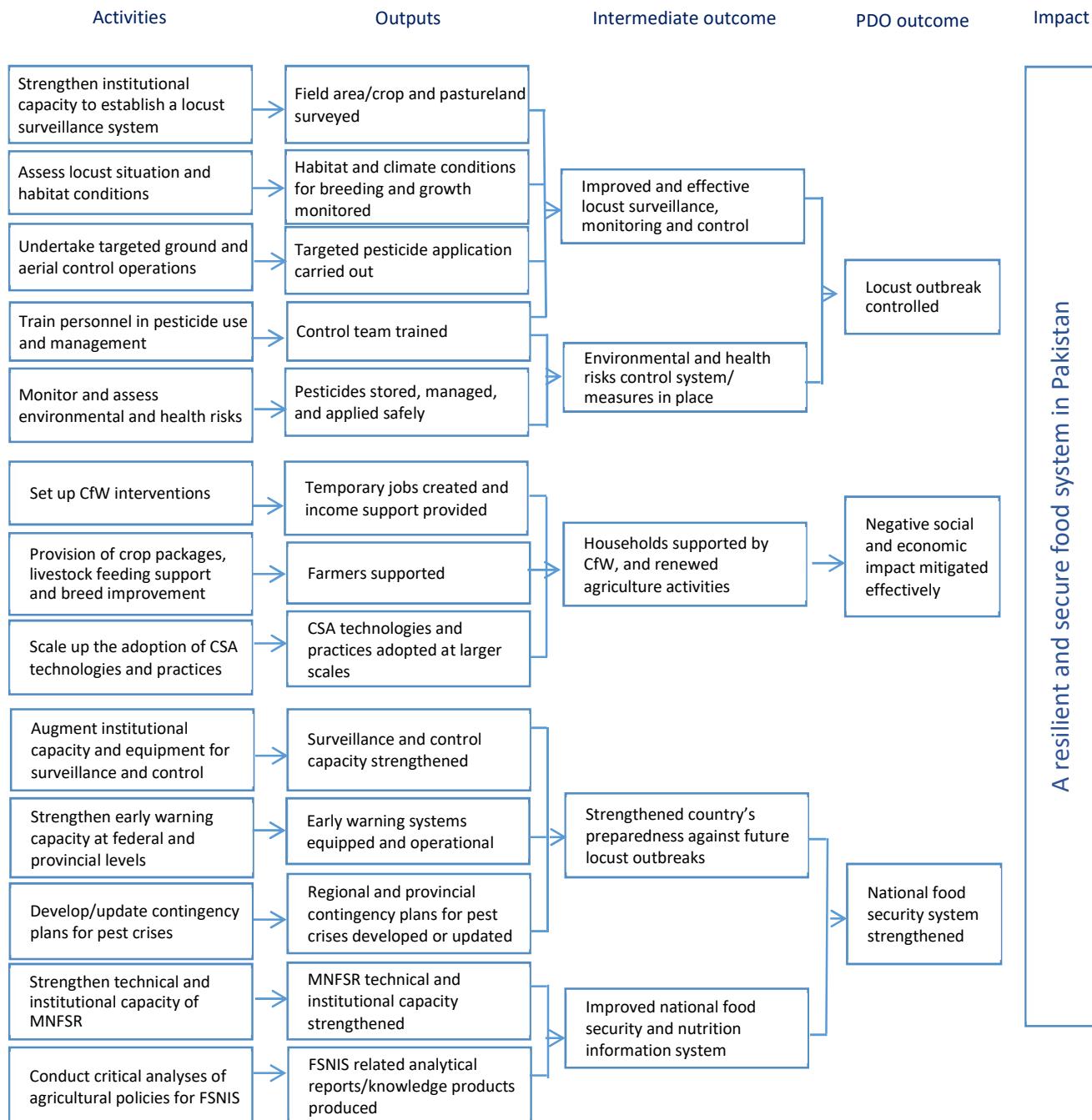
37. **The primary Project beneficiaries will be farmers and agricultural laborers who live in areas prone to desert locust infestation (component 1) and those whose production is seriously affected by the locust outbreak (component 2).** For these groups, the Project will prevent locusts from damaging their livelihoods and provide compensatory income support opportunities. Federal and provincial government agencies at different levels will also benefit through improvements in their response capacity and capabilities. About 6 million farmers will benefit from Project interventions, of which, around 500,000 farmers, agricultural laborers, and women beneficiaries are expected to benefit from component 2. The Project is also expected to contribute to the national economy by enhancing the sustainability of the agricultural sector. Specifically, MNFSR will be a beneficiary due to a strengthened FSNIS, while DPP locust surveillance and response capacity will be strengthened along with provincial governments (components 3 and 4). The Project will also significantly reduce intra-regional locust migration and associated crop losses.

38. **Gender.** Given that women make up almost 67.2% of labor involved in agricultural, forestry and fishing activities, the gender dimension will be fully reflected in both Project design and implementation, to ensure equal opportunities for women. The Project will specifically address gender gaps as follows: i) ensuring women's participation in locust control activities and collection of gender disaggregated data; ii) mandating women's share as beneficiaries of the livelihood rehabilitation activities; iii) designing awareness campaigns targeted to support women to understand and take precautions to combat the outbreak and ensure safe treatment of the same; and iv) specifying the ratio of female staff in PIUs at different levels. The Project will support women farmers' access to locust operations, training and capacity building activities to increase their ability to engage in agricultural production. The Project will specifically aim to increase women's awareness and preparedness of the locust outbreak and other relevant disasters. It will also support education on food preparation, particularly in areas that have been/will be treated with pesticides. Gender disaggregated information from components 1 and 2 will also help MNFSR to prepare relevant policy documents for future targeted interventions. Contractors, consulting firms and implementing partners will be sensitized to gender issues and encouraged to achieve gender balance in their teams. The Operations Manual will spell out gender aspects and protocols for mainstreaming gender within Project interventions. The Project has the following indicators to measure inclusion of women beneficiaries: i) Females as the direct recipients of cash or inputs-based assistance; ii) Share of locust-affected female farmers reporting renewed agricultural activity; and iii) Information campaigns targeted at women, specifically on managing adverse effects of the locust outbreak. In addition, the project will also track and ensure i) minimum 30% of PMU staff should be woman; and ii) about 4000 women engaged in ground surveys for pest surveillance.

39. **Citizen Engagement.** Citizen engagement mechanisms will form an integral part of the Project to enable effective two-way interaction between citizens and the state, including consultations at all stages of the Project, from design to implementation. The main target group of this activity will be smallholders and service providers who receive Project support. The citizen engagement mechanisms will help design extension services based on the needs of farmers and service providers, enabling all stakeholders to make informed decisions about public resource allocations. Citizen engagement will include: i) the establishment of a real-time interaction platform between beneficiaries, nongovernmental organizations and the government; ii) the creation of community participatory monitoring through social audits and other tools; and iii) the establishment of a functional grievance redress mechanism. To measure citizen engagement, the following indicator has been included in the results framework (Section VII): "Percentage of beneficiaries that feel that project investments reflect their needs".



## D. Results Chain



## E. Rationale for Bank Involvement and Role of Partners

40. **The World Bank Group is well placed to support the desert locust crisis response.** The Bank can draw on global crisis response experience, multisectoral technical expertise, tested procedures, and financial resources. Its experience



in crisis response has also yielded lessons to support interventions that preserve livelihoods in the short-term, promote recovery over the medium-term, and support resilience over the long-term. The Project is aligned with global best practice developed for the Bank's Africa and Middle East and North Africa regions' Emergency Locust Response Program MPA and the single-standing locust control operation for Yemen. Moreover, the Bank is coordinating with the Asian Development Bank which is considering support for locust control efforts that could come on-line in the next calendar year.

**41. The Bank's effective collaboration with partners (such as FAO) is critical for mobilizing a successful and technically sound crisis response on the ground.** In these instances, as discussed in the section on lessons learned, success 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.

#### **F. Lessons Learned and Reflected in the Project Design**

**42. Drawing on lessons from past crisis responses, the proposed Project integrates interventions to sustain recovery and assure resilience in the short-term, medium-term, and long-term.** The Project supports immediate monitoring and control, and livelihood protection interventions for those affected by the crisis, so that negative medium-term impacts are not aggravated by destructive short-term coping solutions. From the start, the Project initiates efforts to ensure that over the medium-term, producers recover the means to earn income and access food from agricultural and pastoral assets that have been depleted or destroyed by the locust crisis. Finally, to ensure resilience over the long-term, Project interventions build, strengthen, and implement early warning systems and preparedness measures.

**43. Another lesson from previous crisis responses is that most issues arise from a lack of coordination and timely funding, which delay the response.** Accordingly, the Project will focus on MNFSR to ensure a timely and well-coordinated response to future desert locust outbreaks, and MNFSR will ensure effective communication and coordination with provincial governments.

**44. It is essential to deal with environmental impacts and the accumulation of obsolete pesticide stocks.** The Project will, therefore, build extensive capacity to respond to the potential impacts of pesticide use by supporting the preparation of a comprehensive national PMP, ensuring that pesticides are stored appropriately, and that obsolete pesticide stock is properly disposed, following good international and industry practices.

**45. When the client has relatively weak capacity to implement and coordinate a crisis response, mobilizing external partners' skills and expertise is key.** As a recognized global leader in management and control of locust, FAO is expected to play an important role in the Project. Since the start of the desert locust threat in the second half of 2019, FAO has been working closely with MNFSR, as well as DPP, to counter the infestation. In addition, FAO has rich experience in design and implementation of emergency response, recovery and resilience programs to ensure food and nutrition security and livelihoods of the people affected by natural disasters and food chain crises across Pakistan. FAO technical expertise and experience may also be utilized during PMP preparation and implementation, and management of environmental, health and safety risks associated with the Project.

**46. Other specific lessons learned from the Bank's agriculture portfolio in Pakistan have also been reflected in the Project design.** These lessons include using a community-driven development approach to ensure participation and sustainability; M&E consultants for monitoring Project activities and impact; use of consultants and independent experts to oversee technical issues and suggest solutions as needed; locating Project management as close to the focus of Project activities as possible to ensure sound understanding of problems encountered and ability to react to beneficiary demands more effectively; ensuring that Project management teams remain as stable as possible; and the need to strengthen



federal level coordination in areas with nationwide impact, such as disaster response and food security.

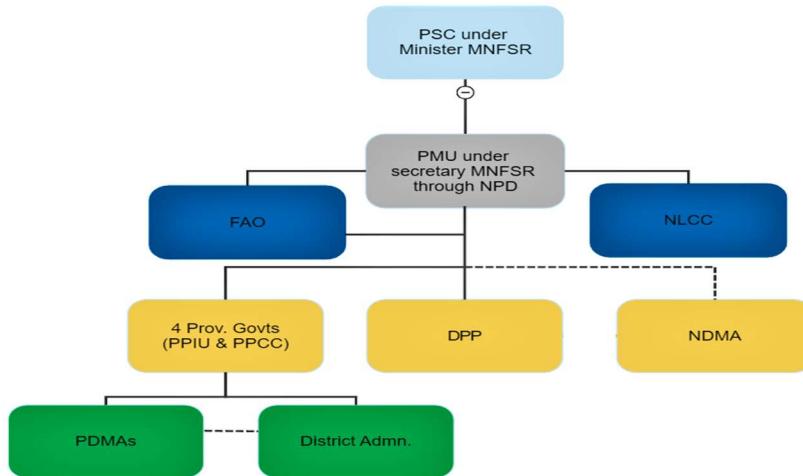
### III IMPLEMENTATION ARRANGEMENTS

#### A. Institutional and Implementation Arrangements

47. **Locusts pose a national emergency.** A well-coordinated and centrally managed response is important to control a pest that does not recognize international or provincial administrative boundaries. Unequal preparedness between provinces would be counterproductive. Therefore, it is essential to adopt a system where resources flow from the federal government to each of the implementing partners based on the needs identified in the Project.

48. **This is the first federal agricultural project financed by the World Bank in Pakistan.** It is a direct response to the consensus that MNFSR's policy function and coordination role across provinces should be significantly strengthened. Therefore, the Project management structure is designed in a way that MNFSR has been made responsible for overall Project implementation with the support of provincial governments, DPP, NLCC, and NDMA, and with technical assistance from FAO keeping in mind the comparative advantages of each organization (See Figure 1). To ensure readiness for implementation with this first of its kind arrangement, an Operations Manual has been prepared that will be reviewed and refined as required.

**Figure 1. Project Implementation Structure**



49. **Project Steering Committee (PSC).** The PSC will oversee and steer overall Project implementation. It can revise the Project scope within the approved cost and duration and recommend revisions beyond the approved cost within the authorized limits. The PSC will approve the distribution plan, manage partnerships and review Project implementation on a quarterly basis. The PSC will be comprised of: the Minister, MNFSR as Chairperson; Secretary, MNFSR; Secretary, Economic Affairs Division; Secretary, Ministry of Finance; four Provincial Chief Secretaries; Member, Food Security and Climate Change (Planning Commission); NLCC Coordinator; NDMA representative; Food Security Commissioner; Director General, DPP; and National Project Director (NPD) as its Secretary. NDMA's involvement in the Project will be triggered only when the locust crisis grows beyond DPP's control. The FAO representative may serve as a PSC observer.

50. **Project Management Unit (PMU).** The Secretary, MNFSR will be responsible for overseeing Project implementation. The Secretary will fulfill this responsibility by setting up a PMU under his direct supervision with an



independent NPD and requisite staff. The role of the PMU will be to manage and implement the Project, and coordinate implementing partners, M&E, financial management, procurement, and logistics management.

51. **Provincial governments.** Provincial governments will lead Project implementation in the affected areas. Provincial agriculture departments will set up PPIUs under direct supervision of the Secretary of Agriculture. The Secretary may depute a senior officer of the department or hire a provincial project director/coordinator to head the PPIU. Farm operations (e.g., crop land control under component 1, and component 2) will be carried out through the district administration office, with the support of the agriculture department and the Provincial Disaster Management Authority (PDMA). The district administration office reports to the Chief Secretary who will be responsible for overall coordination in the province and will chair the Provincial Project Coordination Committees (PPCC). The members of the PPCC may include the Secretary Agriculture, Divisional Commissioners, DPP, FAO and NPD.

52. **The federal government will finance Project implementation activities at provincial level through grants to the provincial governments.** These grants will be accompanied by a Performance Agreement that will use the following indicators to monitor the efficiency and effectiveness of implementation at provincial level: i) land area sprayed with pesticides for locust control; ii) pesticide inventory stored in accordance with appropriate international safety standards; iii) affected households supported by cash-based assistance; iv) affected farmers receiving input packets; and v) person work-days generated by emergency CfW schemes. The specific values will be agreed between the federal government and each provincial government and will be part of the Operations Manual. An independent agency will be engaged to monitor implementation at provincial level and will supply quarterly reports to the PMU that can be used to inform further payments from MNFSR to the provinces.

53. **FAO.** FAO may provide technical support and assistance to all partners including the PSC, PMU, provincial governments and DPP, on topics such as strengthening of the FSNIS, the early warning systems, international and regional coordination, regional locust surveillance, as well as procurement support. (See Annex 1 for a more detailed description of the implementation arrangements).

## B. Results Monitoring and Evaluation Arrangements

54. **M&E will be based on PDO and intermediate indicator data collection (see Results Framework).** The results will be presented to the Bank through semi-annual progress reports, at the mid-term review and in a final impact assessment report. A baseline survey will be conducted in the first three months of the Project, and additional surveys will be implemented mid-project and at completion. For their respective activities, PPIUs will use the data collected in standard reporting formats. At each PPIU, data will be collected and reviewed before being consolidated at the federal level PMU.

55. **In addition to the regular M&E system, an independent agency will be hired for annual performance and field monitoring of district-level activities.** The agency will be expected to: i) track performance through the collection of appropriate and credible data and other evidence; ii) analyze evidence to inform decision-making by the Bank and PMU management; iii) recommend improvements in effectiveness and efficiency as necessary; and iv) report on performance and lessons to facilitate learning and support accountability, including learning from beneficiaries' experience. The terms of reference for the agency will be developed and agreed with the World Bank. The agency's reports will be shared simultaneously with the Bank to enable concurrent supervision and timely assessment of Project implementation.

## C. Sustainability

56. **The Project is expected to contribute greatly to sustainability after its completion, building Pakistan's long-term resilience to crises from pestilence and other disruptions.** First, both federal and provincial governments recognize the



importance of MNFSR's policy function and coordination role. During Project implementation, policies to ensure sustainability of participating institutions will be formulated and implemented. Second, Project activities address the immediate locust surveillance and eradication measures, and the more medium-term control activities. Third, adherence to appropriate health, as well as environmental and social practices will be ensured. Fourth, there is a strong climate resilience dimension through the promotion of CSA practices on beneficiary farms. Finally, the livelihoods of farmers affected by the locust invasion will be protected and capacity for Pakistan to respond in an adequate, timely manner to future locust outbreaks will be restored. For this purpose, the Project will establish a network of Desert Locust Control Centers located near locust breeding areas, which will be equipped with technical equipment, pesticides, pesticide storage facilities, and analytical tools required for locust monitoring, surveillance and control. Government implementing partners, like DPP and provincial governments, will continue to support institutions established under the Project through their own budgets following Project completion and exit of direct technical support by FAO.

#### IV. PROJECT APPRAISAL SUMMARY

##### A. Technical, Economic and Financial Analysis

###### Technical

57. **Project design is technically sound.** First, the “theory of change” shows that the Project design is built on a good understanding of the challenges and opportunities Pakistan is facing. Therefore, it integrates assistance ranging from the short to medium-term and ensures long-term sustainability through its implementation arrangement. Second, the main activities supported by the Project are well-aligned with best international practices, with FAO, a global leader in locust control, expected to play a significant role in Project implementation. Third, the Project is customized to Pakistan’s institutional setup, focused on strengthening MNFSR’s implementation capacity and promoting its coordination function. Fourth, it attaches importance to building Pakistan’s institutional sustainability and its long-term resilience to crises from pestilence and other disruptions. Finally, the Project benefits from the Bank’s experience gained over the past four decades with its agriculture portfolio in Pakistan which includes emphasis on community participation, the importance of M&E, and ensuring the stability of Project management teams.

###### Climate Change

58. **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. 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 corresponding to the Project’s soft components—such as emergency and long-term planning; capacity building, training, and outreach; data gathering; and the development of management information systems will mitigate and reduce the risk within the Project’s immediate and broader development context. The Project makes efforts to promote adoption of CSA and livestock management practices. 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**.

59. **Greenhouse Gas Accounting: The Project has a significant mitigation impact on greenhouse gas emissions.** Based on an analysis computed with the Ex-Ante Carbon-Balance Tool, greenhouse gas emissions from the Project are estimated



at 8,780 tons of CO<sup>2</sup> equivalent (tCO<sup>2</sup>eq) for component 1 and -114,027 tCO<sup>2</sup>eq for component 2, and annual average of -5,262 tCO<sup>2</sup>eq over 20 years. The analysis for component 1 focuses on the short-term application of pesticides for locust control. The analysis for component 2 focuses on the longer-term livelihood measures, through improved agronomic practices, community-based natural resource and water infrastructure management, and improved feeding and breeding for livestock-rearing households. The net present value of the total reduced emissions, at a discount rate of 5%, ranges from \$3.1 million to \$6.2 million, depending on whether the lower end or the higher end of the social price of carbon is used.

60. **The Project's estimated climate Co-Benefits amount to 83.1%.** This is mainly because the Project contributes to better adaptation of Pakistan's agriculture to climate change through its investments in early warning systems, CSA technologies, rehabilitation of orchards, cash transfers and surveillance, control and risk management activities.

### Economic and Financial Analysis

61. **Project benefits are primarily a reduction in Damages and Losses (DALO) due to the locust outbreak.** The potential economic DALO for 2020, estimated by applying different loss scenarios to a baseline valuation of crop and livestock outputs and livestock assets, are estimated to range from \$3.6 billion under scenario 1, corresponding to 6% of the baseline value of production, to \$22.3 billion under scenario 3, corresponding to 39% of the baseline value of production.

	Baseline value of production/assets \$ million	Scenario 1 losses \$ million	Scenario 2 losses \$ million	Scenario 3 losses \$ million
Rabi crops	8,774	877	2,194	4,387
Kharif crops	11,543	1,154	2,886	5,772
Permanent crops	793	79	198	397
Livestock products	10,151	406	1,386	3,248
<b>TOTAL, output</b>	<b>31,269</b>	<b>2,517</b>	<b>6,663</b>	<b>13,804</b>
Livestock assets	26,421	1,057	3,606	8,455
<b>TOTAL, assets</b>	<b>26,421</b>	<b>1,057</b>	<b>3,606</b>	<b>8,455</b>
<b>TOTAL (output + assets)</b>	<b>57,689</b>	<b>3,574</b>	<b>10,270</b>	<b>22,258</b>
<b>DALO, % of baseline</b>	100%	6%	18%	39%

62. **Comparing avoided DALO under the three scenarios with the full Project cost shows a high economic return under all scenarios.** Under scenario 1, with the lowest losses, the benefits-cost ratio is 17.9. Under scenarios 2 and 3, they are respectively 51.5 and 111.6. This shows that the Project is highly profitable, especially given that the only benefits estimated are the avoided DALO for 2020. If the Project succeeds in reducing the lowest DALO scenario by only 5.6%, it will suffice to recover the full Project costs. The Project is expected to have additional benefits, including supporting livelihoods and restoration, early warning preparedness for future threats and capacity building.

63. **The World Bank intervention will be part of a larger government intervention, so the avoided DALO should be assessed in view of LEAFs' contribution to outbreak control.** At a conservative assumption that LEAFs will target one third of total area (around 3 million hectares) that needs to be sprayed, it would directly contribute to \$1.2 billion in avoided DALO. In practice, the contribution of LEAFs to the containment of the threat will go far beyond the hectares



sprayed with pesticides, because the Project will also invest in monitoring, equipment, capacity building and long-term measures for early warning preparedness.

**B. Fiduciary****(i) Financial Management**

64. **The financial management residual risk of the Project is substantial.** Key financial management risks are: i) weak supply chain and inventory management; ii) delay in the flow of funds to the Project and to affected communities; iii) weak implementation capacity of government departments participating in implementation; iv) unintended use of funds; and v) misuse of Project assets and inventories. These risks will be mitigated using proposed interventions under the Project design. Since this is a national project, the federal government will be responsible for providing direct coverage across all the provinces (down to district level) through the federal PMU. Within the PMU, each Project component will be managed by a Deputy Project Director who will coordinate with PPIUs. Each Deputy Project Director will bear responsibility for overall implementation of their respective component. Under each Deputy Project Director, a complete implementation and coordination mechanism supported by an M&E facility will be established. The government may choose to partner with FAO for international procurement through a blanket withdrawal application. Moreover, FAO may also be involved in on ground support with district and agriculture officials. The risk of misuse of funds will be managed through the hiring of a chartered accountant firm as internal auditor. External audits will be conducted by the Department of the Auditor General of Pakistan.

65. **Financial management arrangements for the Project.** The Project may utilize the expertise of FAO which has been providing support in the field of agriculture and pest control for a long time in Pakistan. Funds may be provided to FAO headquarters through blanket withdrawal applications which will be used for their agreed interventions in the Project. Subsequently the amount spent by FAO will be reported/reconciled periodically prior to submission of the next withdrawal application. Inventory and assets management systems, expected to be established by FAO, will provide complete asset tracking and inventory position updated electronically in a real-time. An audit firm will conduct internal audits throughout the year, including review of system effectiveness, compliance with rules and procedures, asset and inventory management review, and report biannually to the PSC. The Project will partner with the Benazir Income Support Program (BISP) for payments related to sub-components 2.1 and 2.2. The BISP payment mechanism will be on a reimbursement basis. Provincial agriculture departments will receive funds through a grant mechanism to be transferred by the federal government to the provincial finance department. Provincial agriculture departments will receive a budgetary allocation from their respective finance department.

66. **For financial management activities, a single designated account will be established for MNFSR.** The Project designated account will be managed by two designated signatories who will be responsible for Project payments. Initial payments will be processed through respective components and final payment processing will be conducted in the Project's main financial management unit. Project budgeting procedures will follow country systems.

**(ii) Procurement**

67. **Procurement will be carried out in accordance with the World Bank's Procurement Regulations for Investment Project Financing Borrowers for Goods, Works, Non-Consulting and Consulting Services, dated July 1, 2016 (revised in November 2017 and August 2018).** The Project will be subject to the World Bank's Anticorruption Guidelines, dated October 15, 2006, revised in January 2011, and as of July 1, 2016. The Project will use the Systematic Tracking of Exchanges in Procurement (STEP) to plan, record and track procurement transactions.



68. **The finalization of the streamlined Project Procurement Strategy for Development has been deferred to implementation.** An initial procurement plan for the first three months has been agreed with the implementing agencies and will be updated during implementation.

69. **The proposed procurement approach prioritizes fast-track emergency procurement for the required goods, works and services.** Key measures to fast track procurement include direct selection and reduced bidding time, use of existing agreements by the procuring entities which are consistent with the Bank's core procurement principles, procurement from UN Agencies (FAO, UNOPS, etc.), increased thresholds for request for quotation and national procurement, and no prior review for emergency procurement. The streamlined procedures for approval of emergency procurement to expedite decision-making and approvals by the implementing agencies have been agreed and will be documented in the Operations Manual including procurement decision-making timelines and procedures. Under the streamlined procurement procedures for emergency operations, provision of bid securing declarations is accepted and performance security in the case of small contracts for works or supply of goods will not be required.

70. The procurement residual risk is **substantial**. The major risks to procurement are lack of technical capacity within implementing agencies to cope with emergency procurement; historically slow decision-making within implementing agencies impeding emergency procurement; and supplies and equipment not being utilized effectively due to poor implementation logistics and a lack of trained technicians to operate equipment. To mitigate these risks, the Bank has an expert panel available for direct selection to support pesticide application equipment procurement. The Bank will continue to provide day to day support to facilitate procurement decision-making. Existing supply chains will be used to ensure goods are effectively utilized and technicians will be identified in parallel for all equipment procured.

#### C. Legal Operational Policies

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

#### D. Environmental and Social

71. **The environmental risks are assessed as high.** Locust response has been ongoing since June 2019 by the DPP and various provincial governments. Multiple pesticides were used over large areas, using various methods. As of now, the pollution load and its resulting impacts so far are unknown.

72. **Component 1:** Locust control activities under component 1, including ground and aerial application of pesticides at large scale, can exacerbate the potential impacts on environmental and human health. For this purpose, the Recipient will prepare and disclose a PMP satisfactory to the Bank within 30 days of Project effectiveness. The PMP will adopt relevant FAO guidelines and applicable good international industry practice. The use of inappropriate pesticides and formulations and/or unnecessary long exposure and large quantities during pesticide handling, transportation, storage, disposal and pesticide application activities under component 1 can have detrimental impacts on human health. DPP staff and workers (including the ones from the communities) involved in these operations are under greater risk, but resident rural populations including farmers, children and women, particularly pregnant mothers, living in treated areas may also be exposed to pesticides and at risk. Unsafe use of pesticides can result in undesirable environmental impacts which may include pollution of water bodies, impacts on natural protected areas, deterioration of air and soil quality, damage to non-target crops and other vegetation, and can be toxic for birds, animals and aquatic species. These impacts will be



mitigated under ESS1, ESS2, ESS3 and ESS4. Considering that pesticide application has been ongoing for several months without delimitation and characterization of sensitive areas, water bodies and other critical habitats, and that repeat pesticide application in the same area may occur during implementation and even before, the cumulative and residual environmental impacts could be significant and irreversible.

73. **Components 2 and 3:** Component 2 mainly consists of small-scale rehabilitation activities to create temporary employment generation and livelihood support restoration activities and is unlikely to have any environmental impacts. Component 3 will support strengthening: i) of the national locust surveillance system; ii) linkages with regional networks; and iii) the FSNIS. The system strengthening activities may include minor refurbishments and rehabilitation of the TOC office, established at MNFSR for better functionality, that may have negligible environmental impact and procurement of IT equipment and digital devices that may lead to generation of e-waste. Adequate mitigation measures for rehabilitation activities and an e-waste management plan will be prepared as part of the ESMF to be prepared under ESS1. Component 4 will support Project management and M&E and does not include activities that may have an environmental impact. In addition, rehabilitation and strengthening of infrastructure at thirteen existing locust surveillance and control outposts and construction of six additional outposts will include civil works. The interventions might generate risks and impacts related to construction works, such as dust emissions, debris, and other solid waste generation, ground/surface water contamination, social annoyance and community safety due to traffic increase, noise, dust, unsafe construction sites, etc. as well as occupational health and safety for workers, and other standard risks and impacts of construction. The environmental risks and impacts for component 3 are expected to be site-specific, reversible, and of low magnitude that can be mitigated following appropriate measures.

### Social Safeguards

74. **Social risks are also assessed as high**, primarily due to community health and safety and cumulative impacts of pollution load and livelihood loss, elite capture and social exclusion in livelihood assistance, recovery and resilience components, and issues related to encroachers/land acquisition for locust surveillance outposts. So far, the extent to which small to medium farmers have either lost their crops due to locust attacks, or are at the verge of losing them, is not known. Losing crops is not only detrimental to their agricultural income, but also leads to less food availability for livestock, which effectively means less livelihood, food security and disposable income to be spent on health costs and other basic needs. Such shocks can render them without assets, pushing them down the poverty ladder, at least in the medium-term. Impacts on soil, air and water bodies from large scale pollution are also unknown. Component 2 on Livelihood Protection and Rehabilitation will respond to these risks. Polluted lands tend to have lower crop productivity and soil fertility, since pesticides kill all types of insects including those beneficial to crops, as well as microorganisms. This can lead to severe damage to communities that depend on the land in the medium and long-term. To respond to these risks, livelihood response, restoration and early recovery support will be provided to landless farm laborers and affected farmers under sub-components 2.1 and 2.2. In addition, community health and safety risks are attributed to exposure of community residents, farmers, and pastoralists to pesticides. Higher levels of ingestion by humans (especially those with respiratory illnesses, elderly, etc.) can be detrimental to health. So far, farmers and community workers have been involved in locust response in many areas, without adequate safeguard measures in place. Also, in many rural areas, communities use open wells, water ponds, etc. for household purposes, including drinking water. These water bodies can become polluted in areas where intensive application of pesticides is conducted. In areas using subsurface water for drinking using hand pumps, contamination risks may be higher. Risks of sexual exploitation and abuse and gender-based violence are possible due to deployment of external personnel, including agricultural extension workers, contractors, etc. In addition, due to limited resources, there is a chance that smaller, remote villages may be excluded from locust control and surveillance activities, and from livelihood protection and rehabilitation, due to lack of access and/or mobilizing enough voice for the provincial agricultural departments to respond. Such a situation can lead to communal unrest, protests and widespread grievances. Also, rehabilitation and construction of locust surveillance outposts are planned



which may include managing illegal encroachments, if any, associated with existing government owned outposts, and/or new sites, including land acquisition. Given these factors, social risk is classified as high.

### **Environmental and Social Management**

75. **The Project is prepared under emergency procedures triggered through Paragraph 12, Section III of the Bank's Investment Project Financing Policy.** MNFSR has not worked with the Bank but has worked with other international agencies such as FAO and the UK's Department for International Development (DFID). FAO is actively engaged with MNFSR and has jointly conducted awareness training in a number of districts in Pakistan with farming communities and the private sector, including pesticide companies on the need for rational and judicious use of pesticides for locust response, and adoption of safe techniques in their handling, application and disposal. The Agricultural Pesticides Ordinance 1971 and Pakistan Agricultural Pesticides Rules 1973 were enacted by the government to regulate the import, manufacture, formulation, sale, distribution and use of pesticides. In addition, Pakistan is also a signatory to international conventions, such as the Rotterdam Convention, on the use of pesticides and hazardous chemicals, and its guidelines were adhered to while planning the locust response. The government, in its National Action Plan for Surveillance and Control of Desert Locust in Pakistan (NAP-DL-Pak), has developed standard operating procedures on the identification and use of pesticides per FAO recommendation, in particular the International Code of Conduct on Pesticide Management of FAO-WHO.

76. **The social and environmental risk management will rely on:** i) assessment of the ecological and socioeconomic damage done so far due to the ongoing locust response; ii) identification of safe to use pesticides for the immediate term, biopesticides and biological pest control methods for the medium to long-term; iii) protocols for safe pesticide use and management, in line with international good practices, national guidelines and World Bank ESS; iv) social assessments of targeted areas, to identify vulnerable groups within the remote and historically underserved areas (especially in Balochistan), evaluate chances of elite capture in CfW programs, and assess targeting criteria in livelihood support components; v) evaluation of local community capacity to be a part of locust surveillance, response and information generation and dissemination; vi) community concerns about the potential benefits and risks, pesticide use, storage, and disposal; vii) an effective grievance redress mechanism to address grievances related to locust response, compensation, and any other unforeseen adverse impacts identified by communities; and viii) survivor-centered management of gender-based violence risks.

77. **Environmental and Social Framework standards ESS1, ESS2, ESS3, ESS4, ESS5, ESS6, ESS7, ESS8 and ESS10 are relevant to the Project.** As per Environmental and Social Framework requirements, the Recipient has prepared a draft Environmental and Social Commitment Plan and Preliminary Stakeholder Engagement Plan. The Stakeholder Engagement Plan will be reassessed within 45 days of Project effectiveness, updated and disclosed by the Recipient. The Environmental and Social Commitment Plan entails the commitment with timeframes of safeguards instrument to be prepared, including Labor Management Procedures, and adequate organizational structure and capacity building measures for smooth and safe implementation.

78. **For effective ESS1 response, the Project components can be divided into two categories, urgent response actions in Stage I, and recovery and resilience actions in Stage II.** Component 1 on surveillance and control measures, and sub-component 2.1 on cash-based assistance for temporary employment creation and food security, would fall under urgent response actions, for which relevant ESS1 instruments will be prepared within 45 days of Project effectiveness. Sub-component 2.2 on livelihood restoration and early recovery, sub-component 2.3 on strengthening resilience and promoting agricultural transformation, and component 3 on early warning preparedness and food security can be considered Project activities for recovery and resilience in Stage II, for which, ESS1 instruments will be prepared within three months of Project effectiveness, prior to initiation of any works under the same. To mitigate the environmental and social risk and impacts, the Recipient will prepare and disclose a standalone PMP satisfactory to the Bank within 30



days of Project effectiveness; and prepare, disclose and implement an ESMF for Stage I within 45 days. The PMP will include measures for: i) adequate design of pesticide transportation, storage, handling, and management facilities; ii) management of stocks in an effective, efficient and transparent way; iii) disposal of unwanted or surplus pesticides and waste resulting from pesticide application; and iv) biopesticides and biological pest control methods. The ESMF will include relevant requirements on Occupational Health and Safety, Community Health and Safety, Social Management Framework, and Water, Air, and Soil Impact Management along with a robust grievance redress mechanism. ESMF Stage II will be prepared and disclosed within 90 days of Project effectiveness, before initiation of any work under the relevant components, as mentioned above. The activities under sub-component 1.3 will monitor and assess the human health risks during the locust control program that will help in mitigating impacts of the program on human health and the environment.

## V. GRIEVANCE REDRESS SERVICES

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

## VI. KEY RISKS

80. **The overall risk is determined to be substantial.** The rating is based on the substantial risk associated with political and governance aspects, macroeconomic aspects, institutional capacity (particularly in relation to MNFSR's capacity and coordination function), fiduciary aspects, and high risk associated with the environmental and social aspects. These substantial and high risks are explained below.

81. **Political and governance risks are substantial.** With the devolution of agriculture and rural development affairs to provincial governments in 2010, the role of the federal government has significantly reduced. As a result, there is no established protocol to address challenges such as the locust outbreak, which does not recognize provincial boundaries. Within provinces, similar coordination issues abound between provincial and district governments which may require further attention. To address this risk, the government has established the NLCC and the Project will establish a steering committee to oversee Project implementation and mediate differences of opinion. The Project will also establish a robust monitoring, coordination and outreach system for improved oversight, citizen engagement and regional coordination.

82. **Macroeconomic risk is substantial.** There is a reduction in fiscal capacity of governments due to global economic disruption and slowdown. The COVID-19 pandemic adds another layer of fiscal vulnerability and has led to significant increase in unemployment, especially in the informal sector. As the country moves to reopening, a possible second wave transmission must be carefully monitored. The country is emerging from a macroeconomic crisis; however, the government is already deploying emergency measures to create fiscal space to respond.

83. **Environmental and social risks are high.** This is primarily due to large volumes of pesticide application leading to



community health and safety risks, loss of livelihoods, especially of vulnerable groups (small farmers, agricultural labor, women-headed households, etc.), and cumulative impacts of pollution load and livelihood loss. For example, in a worst-case scenario, the pollution load may leave lands polluted to the extent that crop productivity and soil fertility are lowered. This can lead to irreversible damage which can lead to migration of communities. To mitigate these risks, the Recipient will prepare and disclose a standalone PMP satisfactory to the Bank, within 30 days of Project effectiveness. An ESMF will be prepared, disclosed and implemented within 45 days for urgent response actions in Stage I and within 90 days of Project effectiveness for recovery and resilience actions in Stage II. The COVID-19 pandemic presents special challenges for the Project. To manage these risks the Project will supply personal protective equipment to all Project staff, operators and CfW recipients, support contactless cash transfers, and implement standard operating procedures set by the federal and provincial governments.

84. **Institutional capacity for implementation and sustainability risks are substantial.** MNFSR's capacity has been reduced since agriculture and rural development affairs was devolved to provincial governments. Consequently, effective coordination between the federal and provincial governments to address natural disasters with nationwide impact was compromised. The Project design emphasizes capacity building at the federal level, as reflected in the implementation arrangements. FAO, with its strong technical expertise, is expected to play an important role in providing technical assistance to both the federal and provincial governments to implement the Project. This will create a valuable "learning by doing" opportunity for DPP and provincial level staff during the three-year Project implementation period.

85. **Fiduciary risk is substantial.** The assessment of fiduciary systems and capacity concluded that there are significant weaknesses in managing fiduciary aspects due to insufficient capacity of MNFSR. The resources under component 4 will be directed toward strengthening the relevant capacities in the PMU and PPIUs through periodic training.

**VII. RESULTS FRAMEWORK AND MONITORING****Results Framework****COUNTRY: Pakistan****Pakistan: Locust Emergency and Food Security Project****Project Development Objectives(s)**

To control the locust outbreak, restore livelihoods in locust-affected areas, and strengthen Pakistan's national food security monitoring and management system.

**Project Development Objective Indicators**

Indicator Name	PBC	Baseline	Year 1	Year 2	End Target
<b>Control of desert locust outbreak implemented</b>					
Affected agricultural land area restored to productivity (Percentage)		0.00	75.00	80.00	90.00
Affected pasture/rangeland restored to productivity (Percentage)		0.00	75.00	80.00	90.00
Early warning system developed, functioning and sustainable (Yes/No)		No		Yes	Yes
Regional coordination on locust surveillance and control strengthened (Yes/No)		No	Yes	Yes	Yes
<b>Livelihoods in locust-affected areas restored</b>					
Affected households supported by cash or inputs based assistance (Number)		0.00	30,000.00	70,000.00	96,000.00
Females as the direct recipients of cash or inputs based assistance (Number)		0.00	6,000.00	15,000.00	20,000.00
Share of locust-affected farmers (incl.		0.00	75.00	80.00	90.00



Indicator Name	PBC	Baseline	Year 1	Year 2	End Target
livestock owners) reporting renewed agricultural activity (Percentage)					
Share of locust-affected female farmers reporting renewed agricultural activity (Percentage)	0.00		75.00	80.00	90.00
<b>National food security system strengthened</b>					
National food security and nutrition information system strengthened and functioning (Yes/No)		No			Yes
<b>Intermediate Results Indicators by Components</b>					
Indicator Name	PBC	Baseline	Year 1	Year 2	End Target
<b>Surveillance and Control Measures</b>					
Land area sprayed for locust control (Hectare(Ha))	0.00		1,000,000.00	2,000,000.00	2,500,000.00
Area of locust-affected land surveyed (Hectare(Ha))	0.00		1,500,000.00	3,000,000.00	4,000,000.00
Locust monitoring system operational (Yes/No)	No		Yes	Yes	Yes
Pesticide inventory stored in accordance with appropriate international safety standards (Yes/No)	No		Yes	Yes	Yes
Number of locust control teams trained (Number)	0.00		400.00	700.00	1,000.00
Women engaged in ground surveys for pest surveillance (Number)	0.00		2,000.00	3,000.00	4,000.00
<b>Livelihood Protection and Rehabilitation</b>					
Community-based infrastructure improved (Number)	0.00		15.00	30.00	40.00
Person work-days generated by emergency	0.00		150,000.00	320,000.00	460,000.00



<b>Indicator Name</b>	<b>PBC</b>	<b>Baseline</b>	<b>Year 1</b>	<b>Year 2</b>	<b>End Target</b>
cash-for-work schemes (Number)					
Farmer Field Schools participants adopting CSA technologies and practices (Number)	0.00		5,000.00	10,000.00	15,000.00
Agriculture Disaster & Climate Risk Management Operational Plans with Implementation Guidelines developed (district) (Number)	0.00		12.00	30.00	36.00
<b>Early Warning Preparedness and Food Security</b>					
National locust outbreak early warning and preparedness plan tested (Yes/No)	No		Yes		Yes
Desert locust control centers fully operational (Number)	0.00		10.00	15.00	19.00
Strategy for the National Food Strategic Reserve updated (Yes/No)	No				Yes
Capacity of Crop Reporting Services (CRS) of provincial agriculture departments strengthened (Yes/No)	No				Yes
A mechanism to collect information on prices, stocks, supplies and demand of essential food items and agriculture inputs from district level developed (Yes/No)	No				Yes
<b>Project Management, and Monitoring and Evaluation</b>					
Awareness raising campaigns conducted (Number)	0.00		7.00	12.00	15.00
Awareness campaigns being targeted to women (Number)	0.00		5.00	8.00	10.00
Citizen Engagement: Beneficiaries that feel project investments reflect their needs and provide feedback (Percentage)	0.00		65.00	70.00	75.00
Women beneficiaries that feel project investments meet their needs and provide feedback (Percentage)	0.00		65.00	70.00	75.00



Indicator Name	PBC	Baseline	Year 1	Year 2	End Target
Minimum 30 percent of PMU staff should be women		0.00	20.00	25.00	30.00

### Monitoring & Evaluation Plan: PDO Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Affected agricultural land area restored to productivity (percentage)	Percentage of affected agricultural land area restored to productivity	Semi-annual	Project's M&E system	Project's progress reports	PMU
Affected pasture/rangeland restored to productivity (percentage)	Percentage of affected pasture/rangeland restored to productivity	Semi-annual	Project's M&E system	Project's progress reports	PMU
Early warning system developed, functioning and sustainable (Yes/No)	Early warning system developed, functioning and sustainable	Annual	Project's M&E system	Project's progress reports	PMU
Regional coordination on locust surveillance and control strengthened (Yes/No)	Regional coordination on locust surveillance and control strengthened	Annual	Project's M&E system	Project's progress reports	PMU
Affected households supported by cash or inputs based assistance (Number)	Number of households receiving cash or inputs based assistance to mitigate the effects of locust damage.	Monthly	Project's M&E system	Project's progress reports	PMU
Females as the direct recipients of cash or inputs based assistance (Number)	The share of females that are the direct recipients of the cash or inputs based assistance of the total number of households receiving social assistance to mitigate the effects of locust damage.	Monthly	Project's M&E system	Project's progress reports	PMU
Share of locust-affected farmers (incl. livestock owners) reporting renewed agricultural activity (percentage)	Share of locust-affected farmers (including crop farmers, livestock owners) who have restarted (and reporting) agricultural activity within one year of having been affected by the locust outbreak.	Semi-annual	Project's M&E system	Project's progress reports	PMU
Share of locust-affected female farmers reporting renewed agricultural activity (percentage)	Share of locust-affected female farmers (including crop farmers, livestock owners) who have	Semi-annual	Project's M&E system	Project's progress reports	PMU



	restarted (and reporting) agricultural activity within one year of having been affected by the locust outbreak.				
National food security and nutrition information system strengthened and functioning (Yes/No)	National food security and nutrition information system established and functioning	Annual	Project's M&E system	Project's progress reports	PMU

#### Monitoring & Evaluation Plan: Intermediate Results Indicators

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Land area sprayed with pesticide for locust control (Hectare (Ha))	Total land area in ha sprayed with pesticide for locust control (annually).	Quarterly	Project's M&E system	Project's progress reports	PMU
Area of locust-affected land surveyed (Hectare (Ha))	Area of locust-affected land surveyed (annually)	Quarterly	Project's M&E system	Project's progress reports	PMU
Locust monitoring system operational (Yes/No)	Assessment of whether country-level locust monitoring systems are operational.	Semi-annual	Project's M&E system	Project's progress reports	PMU
Pesticide inventory stored in accordance with appropriate international safety standards (Yes/No)	National and provincial level assessment of safety of storage of locust pesticide inventory	Annual	Project's M&E system	Project's progress reports	PMU
Number of locust control team trained (Number)	Number of locust control team trained	Quarterly	Project's M&E system	Project's progress reports	PMU
Women engaged in ground surveys for pest surveillance (Number)	Number of women engaged in ground surveys for pest surveillance	Semi-annual	Project's M&E system	Project's progress reports	PMU
Community-based infrastructure improved (Number)	Number of community-based infrastructure improved	Quarterly	Project's M&E system	Project's progress reports	PMU
Person work-days generated by emergency cash-for-work schemes (Number)	Number of person work-days generated for affected populations through emergency cash-for-work schemes	Quarterly	Project's M&E system	Project's progress reports	PMU
Farmer Field School participants adopting CSA technologies & practices (Number)	Number of farmer field school participants adopting CSA technologies & practices	Semi-annual	Project's M&E system	Project's progress reports	PMU
Agriculture Disaster & Climate Risk Management Operational Plans with Implementation Guidelines developed (district) (Number)	Number of Agriculture Disaster & Climate Risk Management Operational Plans with	Semi-annual	Project's M&E system	Project's progress reports	PMU



	Implementation Guidelines developed (district)				
National locust outbreak early warning and preparedness plan tested (Yes/No)	Assessment of readiness to launch locust early warning and preparedness plan.	Annual	Project's M&E system	Project's progress reports	PMU
Desert locust control centers fully operational (Number)	Number of Desert Locust Control Centers (DLCC) in the network, rehabilitated and/or newly established and fully operational.	Semi-annual	Project's M&E system	Project's progress reports	PMU
Strategy for the National Food Strategic Reserve updated (Yes/No)	Strategy for the National Food Strategic Reserve updated	Annual	Project's M&E system	Project's progress reports	PMU
Capacity of Crop Reporting Services (CRS) of provincial agriculture departments strengthened (Yes/No)	Capacity of Crop Reporting Services (CRS) of provincial agriculture departments in using the standard data collection techniques including GIS for data collection, crop yield forecasting strengthened	Annual	Project's M&E system	Project's progress reports	PMU
A mechanism to collect information on prices, stocks, supplies and demand of essential food items and agriculture inputs from district level developed (Yes/No)	A mechanism to collect information on prices, stocks, supplies and demand of essential food items and agriculture inputs from district level developed	Annual	Project's M&E system	Project's progress reports	PMU
Citizen Engagement: Beneficiaries that feel project investments reflect their needs and provide feedback (percentage)	Citizen Engagement: Percentage of beneficiaries that feel project investments reflect their needs and provide feedback	Semi-annual	Project's M&E system	Project's progress reports	PMU
Women beneficiaries that feel project investments meet their needs and provide feedback (percentage)	Percentage of women beneficiaries that feel project investments meet their needs and provide feedback	Semi-annual	Project's M&E system	Project's progress reports	PMU
Awareness raising campaigns conducted (Number)	Number of awareness raising communications campaigns conducted	Semi-annual	Project's M&E system	Project's progress reports	PMU
Awareness campaigns being targeted to women (Number)	Number of information campaigns being targeted to women specifically on managing adverse effects of the locust outbreak	Semi-annual	Project's M&E system	Project's progress reports	PMU



Minimum 30 percent of PMU staff should be women	30 percent of staff engaged in project implementation should be women	Semi-annual	Project's M&E system	Project's progress reports	PMU
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**ANNEX 1: Implementation Arrangements and Support Plan**

1. **This is the first federal agricultural project financed by the World Bank in Pakistan.** It is a direct response to the consensus that MNFSR's policy function and coordination role across provinces should be significantly strengthened. Therefore, the Project management structure is designed in a way that MNFSR has been made responsible for overall Project implementation with the support of provincial governments, DPP, NLCC, and NDMA, with technical assistance from FAO keeping in mind the comparative advantages of each organization. In addition to the implementation arrangements described in the "Institutional and Implementation Arrangements" section above, below is a description of other actors involved in implementation.
2. **National Locust Control Center (NLCC).** The NLCC was created to act as a focal point for interprovincial, inter-ministerial, inter-department, inter-services and interagency locust coordination to ensure a full spectrum response. In that capacity, NLCC will be a PSC member, and act as an interface between the Project and the overall national response of the Government of Pakistan in the country.
3. **Department of Plant Protection (DPP).** The DPP has been mandated to manage the locust plague in the country. DPP will prepare a national locust surveillance plan and threat assessments; it will monitor locust population dynamics and provide strategic guidance on where and how to intervene. DPP is also responsible for locust control in desert areas.
4. **National and Provincial Disaster Management Authorities (NDMA and PDMA).** The NDMA and the PDMA will support logistics, contingency planning, crisis preparedness and response, at federal and provincial level, if required by MNFSR.
5. **District Administration Offices.** District administration offices are responsible for operations management in districts, in coordination and support with all necessary stakeholders. The role of the Department of Agriculture and PDMA at district level may vary by province.
6. **Food and Agriculture Organization of the United Nations (FAO).** FAO has played an important role in the global control of locust and extends technical support and assistance to all affected countries. Since the mid-2019 start of the locust threat in Pakistan, FAO has been closely working with institutions like MNFSR and DPP to counter the locust infestation that has been categorized as the worst in 25 years. FAO is the most suitable international technical agency to ensure achievement of the Project objectives in the most efficient manner. In addition, FAO has experience in design and implementation of emergency response, recovery and resilience programs to ensure food and nutrition security and livelihoods of the people affected by natural disasters and food chain crises across Pakistan. FAO is expected to add value and efficiency to LEAFS Project implementation as follows, if required by MNFSR:

- Facilitate specific Project-related international procurement/hiring;
- Provide technical backstopping to the Project at federal and provincial levels using its team of technical experts (local and headquarters);
- Play an effective role in technical aspects of Project implementation (training, adoption of biopesticides and botanicals/innovations and approaches);
- Support institutional capacity building for the set-up of a modern National Locust Surveillance System for Early Warning and Preparedness;



- Support the set-up of a Technical Training Cell at DPP, Karachi;
- With support of grassroots institutions, assist in implementation of activities under component 2: Livelihood Protection and Rehabilitation;
- Support the concerned institutions in integrated pest management initiatives, adoption of international good practices in the area of protection of agriculture resource (water and soil), human health and environment from the negative impact of pesticide application and contamination; and
- Support MNFSR in strengthening the FSNIS.

7. **World Bank Implementation Support Plan.** The Bank will ensure timely, efficient and effective implementation support to implementing agencies. Timely support to MNFSR/PMU will mainly be provided by Bank staff based in Islamabad and other country offices in the region, especially for the first 18 months. Formal implementation support missions and field trips will be carried out biannually and coordinated with other development partners who are also involved in Pakistan's locust response program.

8. Detailed inputs from the Bank team are outlined below:

- **Technical inputs.** Expertise in locust control, social security practices, CSA technologies, and high value agriculture crops is required to review Project plans, implementation and specifications of procured goods, etc. The task team will contract individual expert consultants for these skills.
- **Fiduciary requirements and inputs.** Training will be provided by the Bank's financial management and procurement specialists. The team will also help the PMU identify capacity building needs to strengthen its financial management capacity and to improve procurement management efficiency. Both financial management and procurement specialists will be based in the country office to provide timely support. Formal supervision of financial management will be carried out biannually, while procurement supervision will be carried out on a timely basis as required by the implementing agencies. In addition, under component 4, funds will be available to the PMU for recruitment of specialized skills, as needed. The Bank may assist in identifying consultants needed for the required skills.
- **Environmental and Social Standards.** This is a high-risk project in terms of social and environmental aspects. Inputs from environmental and social specialists are required. Training is required on environmental monitoring and reporting, and the implementing agencies' capacity will be enhanced. On the social side, implementation support will focus on targeting Project activities at small farmers as agreed under the implementation plan. Field visits are required on a biannual basis. Both social and environmental specialists are based in-country. The M&E consultants will assist in independent monitoring of the safeguard issues and highlighting to the Bank team any issues and possible alternative solutions in a timely manner.

**ANNEX 2: National Action Plan for Surveillance and Control of Desert Locust**

1. Given that Pakistan is primarily an agricultural country, the *National Action Plan for Surveillance and Control of Desert Locust in Pakistan* (NAP-DL-Pak) was envisaged to ensure proper comprehension of the existing desert locust situation, coordination of stakeholder public and private sector institutions, timely resource mobilization and efficient implementation of surveillance and control activities as per the Standard Operating Procedures established by FAO to overcome the serious threats to the country's agricultural wealth from desert locust and safeguard national food security.

2. In Pakistan, the desert locust has two breeding seasons i.e. Winter-Spring Breeding Season, which prevails from January to June and Summer-Monsoon Breeding Season, which occurs from June to December.

**NAP-DL-Pak: July 2020 -June 2021****Deployment Plan and Budgetary Requirement**

3. From July 2020 to June 2021 under NAP-DL-Pak, a total of 291 camps (Balochistan – 107, Sindh - 84, Punjab – 60 and Khyber Pakhtunkhwa- 40) will be established in potential desert locust prone regions of the country from July 2020 to June 2021. A total of 582 teams (Balochistan - 214, Sindh - 168, Punjab – 120 and Khyber Pakhtunkhwa- 80) comprising of 4164 staff members (Balochistan - 1126, Sindh - 987, Punjab – 748 and Khyber Pakhtunkhwa- 1303) will work in target areas. Likewise, the federal government (FG) will provide 155 4x4 vehicles for survey and control (Balochistan - 30, Sindh - 56, Punjab – 49 and Khyber Pakhtunkhwa- 20) while the respective provincial governments (PGs) will provide 418 4x4 vehicles (Balochistan - 184, Sindh - 74, Punjab – 100 and Khyber Pakhtunkhwa- 60). FG will deploy 15 airworthy aircrafts (Balochistan - 1, Sindh - 6, Punjab – 7 and Khyber Pakhtunkhwa- 1) during this period. FG will also provide helicopters for deployment in spraying operations (Balochistan - 1, Sindh - 1, Punjab – 2 and Khyber Pakhtunkhwa- 1). FG will extend 660 sets of eLocust-3 devices to provinces (Balochistan - 250, Sindh - 150, Punjab – 150 and Khyber Pakhtunkhwa- 110) for onsite data transmission to FAO Satellite/ Cloud. FG will provide 259 Micron air sprayers to be mounted on control vehicles (Balochistan - 40, Sindh - 124, Punjab – 75 and Khyber Pakhtunkhwa- 20) while respective PGs will arrange 350 such sprayers (Balochistan - 150, Sindh - 100, Punjab – 50 and Khyber Pakhtunkhwa- 50). FG will also provide 250 power/other sprayers for locust control measures (Balochistan - 37, Sindh - 87, Punjab – 102 and Khyber Pakhtunkhwa- 24) while respective PGs will arrange 5193 such sprayers (Balochistan - 538, Sindh - 1500, Punjab – 2211 and Khyber Pakhtunkhwa- 944). Regarding pesticides, FG will provide 2.8 million liters (ML) of Malathion 95% Ultra Low Volume (ULV) formulation registered for control of desert locust in desert areas (Balochistan – 1.3 ML, Sindh – 0.9 ML, Punjab – 0.45 ML and Khyber Pakhtunkhwa- 0.15 ML). The respective PGs will be required to arrange 1.1 ML of Emulsifiable Concentrate (EC) formulations (Balochistan – 0.3 ML, Sindh – 0.4 ML, Punjab – 0.3 ML and Khyber Pakhtunkhwa- 0.1 ML) to safeguard the crop areas both in desert locust recession and invasion regions.

4. A total amount of PKR. 26479.515 million will be required to undertake all activities mentioned above in NAP-DL-Pak) from July 2020-June 2021.

5. The Department of Plant Protection (DPP), an attached department of MNFSR is a lead designated body on desert locust surveillance and control. The DPP faces an acute shortage of technical manpower, ground survey and control vehicles, and aircrafts.



6. Given the seriousness of large-scale outbreaks of desert locust in all regional countries, FAO alerts, media and global outcry, and serious threats posed to the country's agricultural wealth and food security, the aforesaid proposal requires approval/implementation as a matter of national best interest.

7. LEAFS project will contribute to meet the requirements of NAP-DL-Pak. A comparison of LEAFS project's partial contribution towards surveillance and control measures under NAP-DL-Pak is given in the table below:

(Million PKR)

NAP-DL-Pak Requirements	Total Cost (NAP)	LEAFS Year I	LEAFS Year II	LEAFS Year III	LEAFS Total
ULV Pesticide	3420.0	1440.00	480.00	480.00	2400.00
ECPesticide	935.0	510.00	85.00	85.00	680.00
Micronair Sprayer for ULV	1126.5	492.00	0.00	0.00	492.00
Drone/Copterwith opt cost	700.0	100.00	0.00	0.00	100.00
Local Sprayer & R&D	202.0	0.00	0.00	0.00	0.00
Browsers (Tractor driven)	60.0	0.00	0.00	0.00	0.00
Browsers (Vehicle Mounted)	400.0	0.00	0.00	0.00	0.00
REVO VA/T Vehicles	4237.5	2250.00	0.00	0.00	2250.00
POL for Vehicles	1186.875	772.40	771.70	771.70	2315.80
Laptops	100.0	59.75	0.00	0.00	59.75
New HRD (Ground opt)	512.0	314.58	330.31	346.04	990.93
New HRD (Aerial opt)	170.8	0.00	0.00	0.00	0.00
New Air Crafts	4008.0	1968.00	2033.62	0.00	4001.62
Aircraft Hiring	420.84	210.42	0.00	0.00	210.42
Aviation Fuel	412.0	300.00	275.00	275.00	850.00
Spare Parts for aircrafts	500.0	200.00	150.00	150.00	500.00
Trans & Travel Cost	1000.0	0.00	0.00	0.00	0.00
Cash Awards & Death Compensation	775.0	0.00	0.00	0.00	0.00
Cost of other Goods	370.0	0.00	0.00	0.00	0.00
Estab.of Mont Sys thro IT base with SUPARCO & FAO	500.0	100.00	250.00	150.00	500.00
Media Campaign	800.0	131.20	131.20	65.60	328.00
Procurement of locust (100,000 tons)	2600.0	0.00	0.00	0.00	0.00
Restructuring of DPP & Anti Locust cell	1043.0	0.00	0.00	0.00	0.00
Operational and recurring cost of NLCC & Armed Forces	1000.0	0.00	0.00	0.00	0.00
<b>Total</b>	<b>26479.515</b>	<b>8848.35</b>	<b>4506.83</b>	<b>2323.34</b>	<b>15678.52</b>

**ANNEX 3: Eligibility for IDA Regional Window**

1. **Regional IDA.** In the IDA19 Deputies Report, participants “agreed to support Regional Window financing for single-country operations that clearly demonstrate positive cross-border spillovers for health pandemics, natural disasters and adoption of innovative technologies”. Desert locust, if not controlled, can generate a food security crisis or famine. Desert locust outbreaks expand so quickly that they are never confined to a single country, but rather strike large regions instantaneously. Currently, a locust plague affects the Greater Horn of Africa, the Sahel region, Yemen and the Middle East, and South Asia. It is also on the move to Southern Africa. If this plague is not controlled, the damage to rural communities in neighboring countries will be enormous.

**2. LEAFS eligibility criteria for Regional IDA**

- a. *The operation involves three or more countries, and at least one of which is an IDA-eligible country.*

**LEAFS includes financial participation of only one IDA country, however, the Project will have a significant impact on the region. Following the agreement outlined above, the Project qualifies for Regional IDA, due to the rapid spread of the plague across the region.** Project preparation was undertaken following Bank consultation with other countries in the region. The rapid spread of the locust plague may cause severe transformational damage. Swarming adult locusts can fly 150 kilometers per day, and they may travel several thousands of kilometers before they settle to breed. Locusts can eat their own weight daily, and a large swarm may eat 160,000 tons of food each day. This amount of corn would feed 800,000 people for a whole year. According to FAO, Pakistan is an important front-line country for desert locust because of its spring and summer breeding areas. Summer breeding normally occurs along the south western border. Pakistan's neighboring countries have a single breeding season; however, desert locusts are normally not present in Afghanistan.

- b. *The operation would have benefits, either economic or social, that spill over country boundaries, e.g., it would generate positive externalities or mitigate negative ones across country boundaries.*

**Locusts do not respect borders and once they are found in one country, they tend to appear in neighboring countries.** Around the middle of the calendar year, populations will begin to move from the spring breeding areas in Balochistan, Pakistan and parts of southeast Iran to summer breeding areas, and further east (including Nepal). This movement will continue and seems to have been very strong and early in the current year, possibly due to the severity of the locust plague. If they are not controlled where they breed best, they will continue to cause damage across the region.

- c. *There is clear evidence of country and regional ownership of the operation, demonstrating the commitment of the majority of participating countries.*

**The Government of Pakistan requested World Bank support in response to the severity of the current outbreak and is conscious of the importance of locust control in Pakistan for the rest of the region.** Pakistan shares information with other countries through the SWAC (Commission for Controlling the Desert Locust in Southwest Asia). The Secretariat of the SWAC is held by FAO which is expected to be a key advisor to the Government of Pakistan on the LEAFS Project. On March 11, 2020, all four SWAC member countries (Afghanistan, India, Iran, and Pakistan) agreed to constitute a Technical and Operational Coordination Team to exchange information, enhance coordination at the border areas, and increase synchronization to combat the desert locust outbreak in the region. Pakistan has been participating in SWAC meetings on a weekly basis which have been fruitful for exchanging information in its bordering areas.



*d. The operation provides a platform for a high level of policy harmonization between countries and/or is part of a well-developed and broadly supported regional strategy.*

**Locust control in the region is coordinated through the SWAC.** The Commission was established on December 15, 1964. It has four member countries that meet every two years on a rotational basis in one of the member countries. The main activity of the Commission is the annual 30-day joint border survey of the spring breeding areas in southeast Iran and western Pakistan. Other activities concentrate on strengthening national capacities in survey, reporting, early warning, planning, training and control. In response to the current locust plague, SWAC is gearing up its coordination role. SWAC is the mechanism through which LEAFS will coordinate its activities across the region, and it will benefit from capacity building activities. The early warning capacity that will be established through LEAFS will greatly enhance the effectiveness of SWAC.



### ANNEX 4: Project Map

