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Report No: PAD3391

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT AND  
INTERNATIONAL DEVELOPMENT ASSOCIATION

PROJECT APPRAISAL DOCUMENT  
FOR A PROPOSED LOAN  
IN THE AMOUNT OF US\$181 MILLION

AND PROPOSED CREDITS  
IN THE AMOUNTS OF US\$100 MILLION FROM THE IDA SCALE-UP FACILITY  
AND US\$219 MILLION

TO THE  
REPUBLIC OF UZBEKISTAN  
FOR AN  
AGRICULTURE MODERNIZATION PROJECT

February 28, 2020

Agriculture and Food Global Practice  
Europe And Central Asia Region

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## CURRENCY EQUIVALENTS

(Exchange Rate Effective December 31, 2019)

Currency Unit = UZS

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9,507.15 UZS = US\$1

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0.72 US\$ = SDR 1

## FISCAL YEAR

January 1 - December 31

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## ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
AF	Additional Financing
ALC	Agro-Logistical Center
AMP	Agriculture Modernization Project
CBU	Central Bank of Uzbekistan
CIS	Commonwealth of Independent States
CPF	Country Partnership Framework
CPSD	Country Private Sector Diagnostic
CSA	Climate Smart Agriculture
DPO	Development Policy Operation
EA	Environmental Assessment
ENPV	Economic Net Present Value
ERR	Economic Rate of Return
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Standard
EU	European Union
FAO	United Nations Food and Agriculture Organization
FM	Financial Management
FCI	Finance, Competitiveness and Innovation
FIF	Financial Intermediary Financing
FIL	Financial Intermediary Lending
FVREDP	Ferghana Valley Rural Enterprise Development Project
FY	Fiscal Year
GAO	Gross Agricultural Output
GAP	Good Agricultural Practices
GBV	Gender-Based Violence
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (German Agency for International Cooperation)
GOU	Government of Uzbekistan
GRM	Grievance Redress Mechanism
GRS	Grievance Redress Service
Ha	Hectare
HDP	Horticulture Development Project
HQ	Headquarters
IBRD	International Bank for Reconstruction and Development
ICT	Information and Communications Technology
IDA	International Development Association
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation

IFI	International Financial Institution
IFR	Internal Unaudited Financial Report
ILO	International Labor Organization
INDC	Intended Nationally Determined Contribution
IPM	Integrated Pest Management
IPPC	International Plant Protection Convention
JICA	Japan International Cooperation Agency
LSDP	Livestock Sector Development Project
LMP	Labor Management Plan
L2CU	Listening to the Citizens of Uzbekistan
MFD	Maximizing Finance for Development
MIFT	Ministry of Investments and Foreign Trade
MLR	Minimum Level of Residue
MOA	Ministry of Agriculture
MOF	Ministry of Finance
M&E	Monitoring and Evaluation
NPV	Net Present Value
OP	Operational Policy
PCG	Partial Credit Guarantee
PDO	Project Development Objective
PFI	Participating Financial Institution
PIU	Project Implementation Unit
PMP	Pest Management Plan
POM	Project Operations Manual
PP	Procurement Plan
PPL	Procurement Plan Law
PPSD	Project Procurement Strategy for Development
P-RAMS	Procurement Risk Assessment and Management System
RAP	Resettlement Action Plan
R&D	Research and Development
RPF	Resettlement Policy Framework
SEP	Stakeholder Engagement Plan
SLA	Subsidiary Loan Agreement
SOE	Statement of Expenditure
SPQI	State Plant Quarantine Inspection under the Cabinet of Ministers
SPS	Sanitary and Phytosanitary
STEP	Systematic Tracking of Exchange in Procurement
SUF	Scale-up Facility
TOR	Terms of Reference
UNDP	United Nations Development Programme
USAID	United States Agency for International Development
UZAIFSA	Uzbekistan Agency for the Implementation of Projects in the Field of Agroindustry and Food Security
WB	World Bank
WBG	World Bank Group
WTO	World Trade Organization

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## DATASHEET

### BASIC INFORMATION

Country(ies)	Project Name	
Uzbekistan	Agriculture Modernization Project	
Project ID	Financing Instrument	Environmental and Social Risk Classification
P158372	Investment Project Financing	Substantial

### Financing & Implementation Modalities

<input type="checkbox"/> Multiphase Programmatic Approach (MPA)	<input type="checkbox"/> Contingent Emergency Response Component (CERC)
<input type="checkbox"/> Series of Projects (SOP)	<input type="checkbox"/> Fragile State(s)
<input type="checkbox"/> Disbursement-linked Indicators (DLIs)	<input type="checkbox"/> Small State(s)
<input checked="" 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 type="checkbox"/> Responding to Natural or Man-made Disaster
<input type="checkbox"/> Alternate Procurement Arrangements (APA)	

Expected Approval Date	Expected Closing Date
20-Mar-2020	30-Jun-2026

Bank/IFC Collaboration

No

### Proposed Development Objective(s)

The objectives of the project are to (i) enhance productivity-supporting agricultural services and (ii) promote market-led, high-value horticulture value chains.

### Components

Component Name	Cost (US\$, millions)
1. Enhancing productivity-supporting agricultural services	212.80



2. Supporting investments in high-value horticulture value chains	200.00
3. Facilitating trade and marketing	77.50
4. Supporting project management	9.00
Front-End Fees	0.70

**Organizations**

Borrower: Republic of Uzbekistan

Implementing Agency: Ministry of Agriculture (Agroindustry and Food Security Agency - UZAIFSA)

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

Total Project Cost	610.00
Total Financing	610.00
of which IBRD/IDA	500.00
Financing Gap	0.00

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

International Bank for Reconstruction and Development (IBRD)	181.00
International Development Association (IDA)	319.00
IDA Credit	319.00

**Non-World Bank Group Financing**

Counterpart Funding	110.00
National Government	76.00
Sub-borrower(s)	34.00

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

	Credit Amount	Grant Amount	Guarantee Amount	Total Amount
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<b>Uzbekistan</b>	319.00	0.00	0.00	319.00
National PBA	219.00	0.00	0.00	219.00
Scale-up Facility (SUF)	100.00	0.00	0.00	100.00
<b>Total</b>	<b>319.00</b>	<b>0.00</b>	<b>0.00</b>	<b>319.00</b>

**Expected Disbursements (in US\$, Millions)**

WB Fiscal Year	2020	2021	2022	2023	2024	2025	2026
Annual	0.00	30.00	150.00	120.00	100.00	50.00	50.00
Cumulative	0.00	30.00	180.00	300.00	400.00	450.00	500.00

**INSTITUTIONAL DATA****Practice Area (Lead)**

Agriculture and Food

**Contributing Practice Areas**

Finance, Competitiveness and Innovation

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





9. Other

10. Overall

● Substantial

**COMPLIANCE****Policy**

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

☐ Yes ☒ No

Does the project require any waivers of Bank policies?

☐ Yes ☒ No**Environmental and Social Standards Relevance Given its Context at the Time of Appraisal**

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

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



## Legal Covenants

### Sections and Description

The Project Implementation Unit has installed a separate module in the existing accounting software for managing the accounting and financial reporting of the project within 60 days from project effectiveness

### Sections and Description

The Borrower shall ensure that the project is implemented in accordance with the Environmental and Social Commitment Plan, in a manner acceptable to the World Bank.

### Sections and Description

The Additional Event of Suspension consist of the following, namely that the Legislation of the Agency for the Implementation of Projects in the field of Agroindustry and Food Security (UZAI FSA) has been amended, suspended, abrogated, repealed or waived so as to affect materially and adversely the ability of the UZAI FSA to perform any of its obligations under the Legal Agreements.

## Conditions

Type	Description
Effectiveness	The Borrower has established the Project Implementation Unit with staff, resources and terms of reference acceptable to the World Bank.
Effectiveness	The Borrower has adopted the Project Operations Manual in form and substance satisfactory to the World Bank.
Disbursement	The Borrower has prepared and approved the Credit Line Guidelines in a manner satisfactory to the World Bank, including the terms and conditions of the Subsidiary Loan Agreements to be entered into between the Ministry of Finance, the Agency for the Implementation of Projects in the field of Agroindustry and Food Security, and each Participating Financial Institution pursuant to Section "Subsidiary Loan Agreements" of the Legal Agreements



## I. STRATEGIC CONTEXT

### A. Country Context

**1. The proposed Agriculture Modernization Project (AMP) supports the Government of Uzbekistan (GoU) to implement an ambitious agricultural reform strategy that aims to successfully transition to market-oriented and inclusive agricultural sector.** Agricultural reforms are a critical part of the broader reform package organized under two pillars: (i) increasing the role of markets and the private sector in the economy; and (ii) enhancing inclusion. The proposed project is central to the World Bank Group (WBG)'s overall engagement with Uzbekistan, as described in the revised 2016-2020 Country Partnership Framework (CPF)<sup>1</sup>.

**2. Uzbekistan has taken a series of steps in this transition.** Market-oriented reforms were launched with a major decision in September 2017 to remove foreign exchange market controls and unify the official and market exchange rates, initially through a 50 percent devaluation of the Som against the US dollar. Since then, the GoU has implemented a wide range of reforms, including an overhaul of the tax system to improve its efficiency and reach; the removal of several price, production, and trade controls; easing of cumbersome bureaucratic processes faced by businesses and citizens alike; lowering of import tariffs and strengthening of trade facilitation to accelerate the World Trade Organization (WTO) accession process. Economic growth has remained strong at over 5 percent. The World Bank (WB) forecasts the gross domestic production (GDP) to continue growing above 5 percent (5.5 percent in 2019 and 5.7 percent in 2020), well above the Central Asia's average of 4.5 percent<sup>2</sup>. Macroeconomic stability and debt sustainability have been broadly maintained, although some risks, such as those arising from double-digit inflation and government-directed lending, require closer policy attention. Early results of these reforms resulted in widespread public endorsement of the reforms. Data from the 2019 *Listening to the Citizens of Uzbekistan (L2CU)* survey<sup>3</sup> show strong support for the exchange rate unification and the increased private participation and competition.

**3. Robust economic growth, small business development, income from remittances, and an extensive social safety net have driven poverty reduction in recent years.** An estimated 9.6 percent of Uzbekistan's population (3.2 million people) lives below the US\$3.2/day poverty line<sup>4</sup>—which is the international definition for lower middle-income countries<sup>5</sup>. By 2021, the poverty rate at this line is predicted to decrease to 8 percent, concentrating in rural areas where half of the population resides and largely depends on agriculture for their livelihoods. Official poverty and inequality measures have also fallen sharply. The official poverty rate fell from 27.5 percent in 2001 to 11.4 percent in 2018, and official Gini coefficient by over a quarter between 2003 and 2013 (the last year in which the coefficient estimate was reported). Micro- and small businesses development have contributed to the trend of poverty reduction. Official sources credit these entities for 78 percent of total jobs<sup>6</sup>. In addition to dispersed benefits of strong economic growth that has been sustained over an extended period, social assistance and remittances have also played an important role in mitigating the poverty situation. About 37 percent of the population living below US\$3.2/day receives social assistance. More than 17 percent of the bottom quintile of households receive remittances from abroad, accounting for 60 percent of their income. Income growth and rising remittance inflows will remain the primary drivers of poverty reduction over

<sup>1</sup> Originally discussed at the Board on June 14, 2016 (Report No. 126078-UZ), the CPF was revised following a Performance and Learning Review in June 2018.

<sup>2</sup> WBG projections as of October 2019.

<sup>3</sup> A collaborative effort led by the WB in cooperation with the authorities, non-governmental organizations, United Nations International Children's Emergency Fund, the European Union (EU), and US Agency for International Development (USAID).

<sup>4</sup> 2019 L2CU survey.

<sup>5</sup> WB report. 2019. *Where They Live: District-Level Measures of Poverty, Average Consumption, and the Middle Class in Central Asia*. Policy Research Working Paper 8940, Washington, D.C.

<sup>6</sup> WBG. 2019. *Uzbekistan Country Economic Update Summer 2019*.

the medium term.

**4. Many transition challenges remain, with reforms in some areas being complex and politically sensitive, drawing attention to agriculture as a sector with potentially quick wins.** The more visible benefits of market-oriented reforms tend to take time to materialize and require a strong sequence of complementary reforms. Many of these reforms, such as the restructuring of state-owned enterprises and the banking sector, creation of a more level playing field between state-owned and private enterprises, urban and agricultural land reforms, and the development of more accountable public institutions are also likely to be more complex to tackle. As a result, job creation has been slow, Uzbekistan's participation in global value chains remains weak, and the private sector has a limited presence. In fact, the same survey (2019 LCU) that yielded support for the reforms, also revealed households' concerns around the slow pace of job creation and elevated inflation. In this context, attention has shifted to agriculture, the sector with more opportunities compared to other sectors to generate quick and inclusive growth and other benefits. Uzbekistan's transition starting point favors its export competitiveness (given low wages, potential for high productivity, and seasonality advantage) that could help overcome high costs associated with its 'double-locked' location and weak connective infrastructure to markets<sup>7</sup>.

**5. Uzbekistan is vulnerable to the impacts of climate change, particularly in the sectors of agriculture, energy, and water resource management.** Anticipated climate impacts include increases in monthly maximum temperatures across Uzbekistan, high variability of rainfall across different agroecological zones, and increased glacier melting with implications for water availability and river flow. For agriculture, an increase in extreme temperatures and rainfall events due to climate change is increasing the risk with regard to water availability, but also increased incidence of pests, insects, and diseases. Droughts may become more frequent due to decreases of runoffs of Amu and Syr Darya Rivers. Climate change is also expected to adversely affect soil fertility and productivity, as a consequence of droughts, and exacerbated soil salinity due to water scarcity and other factors. The majority of the rural population that depends on agriculture for their livelihood is set to be disproportionately affected by climate change risks through their livelihood's dependence on agriculture, relatively lower ability to adapt, and high share of income spent on food, on average 50 percent. Climate impacts could reverse progress made in poverty reduction, and negatively affect food security and economic growth in vulnerable rural areas, as changes in the seasonal distribution of temperature and precipitation undermine predictable agriculture production<sup>8</sup>.

**6. Uzbekistan ranks high at global gender-focused indices, but there are still gender inequalities.** In 2017, Uzbekistan ranked 105<sup>th</sup> out of 185 countries in the Human Development Index and was categorized as a high human development country<sup>9</sup>. The country was ranked 57<sup>th</sup> out of 188 countries in the 2017 Gender Inequality Index, primarily due to women's high levels of education and labor market participation. Both the Global Gender Gap Index and the Gender Equity Index show that Uzbekistan is close to attaining gender equality in education (enrollment, educational attainment, and literacy) and health (sex ratio at birth and healthy life expectancy). According to the 2019 L2CU, 95 percent of citizens believed that women have equal access to education, employment, and healthcare. Nevertheless, gender disparities persist with one manifestation being that women tend to be employed in the social sector or in part-time, seasonal, low-paying, or unskilled jobs in the formal and informal sectors<sup>10</sup>.

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<sup>7</sup> WB report. 2019. *China/Russia 2030 – Opportunities for Central Asia's Agriculture* presents challenges and opportunities for realizing horticulture export potential in the countries of Central Asia, including Uzbekistan.

<sup>8</sup> Sutton, W. et al. 2013. *Reducing the Vulnerability of Uzbekistan's Agricultural Systems to Climate Change: Impact Assessment and Adaptation Options*. Washington, DC: World Bank.

<sup>9</sup> WB background paper. 2019. *Enhancing the Livelihoods of Rural Women in Uzbekistan*.

<sup>10</sup> Asian Development Bank. 2018. *Uzbekistan Country Gender Assessment Update*.

## B. Sectoral and Institutional Context

**7. For decades, inward-oriented production focus, production and market distortions, and resultant low productivity have characterized Uzbekistan's agriculture.** Since the break-up of the Soviet Union, Uzbekistan's farmers have been operating under artificially low output prices and state production targets for cotton and wheat<sup>11</sup>. Weak land tenure rights and the control of local government over production and land allocative decisions have been a significant source of distortions. Prior to 2017, more than 70 percent of arable land was administratively allocated to the state-controlled production of cotton and wheat, which constitute agricultural commodities with profits, labor intensity, and labor productivity much lower than those for the majority of horticulture products. These two crops consume 90 percent of water used in agriculture and 75 percent of water used in the entire country. In 2015, about 14 percent of cotton pickers, including children, were forced to pick cotton<sup>12</sup>. Horticulture, which generated 50 percent of the value of crop production and 40 percent of gross agricultural output (GAO) just from about 10 percent of total arable land, has been neglected in public service provision and taxed by the government monopoly over fruits and vegetables exports (through Uzagroexport, the specialized state export company) and other regulatory restrictions. Agriculture, which accounted for 34 percent of GDP<sup>13</sup> and 27 percent of labor force in 2016 (3.6 million people), has performed much below its potential.

**8. The first-generation agricultural reforms have focused on the removal of price and market distortions for horticulture export, promoting outward-oriented agriculture.** Uzbekistan's strong potential in horticulture, if realized, can contribute to higher economic growth and can generate larger export revenue. Horticulture has also the potential to create many better paid and inclusive jobs<sup>14</sup> with already more than one million jobs created there. Labor requirements in horticulture are spread year-round, especially for greenhouses and post-harvest processing and marketing activities, and women comprise a substantial share of full and part-time employees within agro-firms and horticulture farms. Horticulture subsector covers a wide range of fruits, vegetables, potatoes, melons, and wine grapes. Between 2017 and 2019, most horticulture export restrictions were eliminated, including: (i) abolishment of export monopoly of Uzagroexport; (ii) abolishment of mandatory sale of 25 percent hard currency earning, and permission to keep hard currency in exporters' account; (iii) reduction in time to receive certificate and register the contract at the customs for horticulture exporters; (iv) elimination of railroad monopoly for export; (v) establishment of "green corridors" at border crossings; (vi) elimination of minimum export prices; and (vii) removal of full prepayment requirement for export contracts outside of Uzagroexport<sup>15</sup>. As a result, in 2018 horticulture export grew 35 percent, accounting for 80 percent of total agri-food export<sup>16</sup>. In 2019, horticulture export is projected to grow by further 40 percent. Horticulture exports, however, account for only 8 percent of horticulture production and remain concentrated in countries and in markets that

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<sup>11</sup> The state order system in Uzbekistan includes four elements: (i) allocating land for specific crops (e.g., cotton and wheat); (ii) setting up a state procurement price at farm-gate level; (iii) setting up production targets and rendering the local authorities responsible for meeting these targets; and (iv) controlling marketing of agricultural outputs.

<sup>12</sup> International Labor Organization. 2019. *Third Party Monitoring of Child Labor and Forced Labor during the 2018 Cotton Harvest in Uzbekistan*.

<sup>13</sup> This is the recently recalculated share of agriculture in GDP, which was based on the upward adjusted agricultural output prices. Before the adjustment, the share of agriculture in GDP in 2018 was 18 percent.

<sup>14</sup> WB report. 2013. *Uzbekistan's horticulture sector* estimated that the number of man-months per hectare for on-farm labor for most fruits and vegetables range 12-22 compared to 5 and 2 in cotton and wheat, respectively. On average, horticulture is 5-10 times more profitable than cotton and grains. Thus, allocating more land for horticulture, along with public investments in agricultural innovations and infrastructure, could create a large number of highly-productive and inclusive jobs, especially for women and youth in remote rural areas.

<sup>15</sup> Policy dialogue for these reforms has been underpinned by the Maximizing Finance for Development-inspired WBG's analytical work (e.g., CPSD) and investment projects (e.g., WB-financed HDP). Elimination of minimum export prices and removal of full prepayment requirement for export contracts outside of Uzagroexport were among the prior actions in the WB's second Development Policy Operation (DPO) approved in May 2019.

<sup>16</sup> Uzbekistan exports 180 types of fresh and processed horticulture products. The range of export destinations has expanded over the last years to include trade with more than 80 countries, allowing Uzbekistan to become: the 2nd largest global exporter of dried apricots, the 3rd largest exporter of persimmons, the 4th largest exporter of raisins and apricots, and the 5th largest exporter of dried prunes, fresh cherries and plums.



attach a low value to Uzbekistan's products. These are traditional markets in Russia, Kazakhstan, and other Commonwealth of Independent States (CIS) countries that accept standards set by Uzbekistan's phytosanitary and food safety systems. Even in these countries, though, most Uzbek products are sold on open markets (*bazaars*), and not in supermarkets that represent opportunities for faster increase in demand and higher retail prices<sup>17</sup>. The share of CIS countries of Uzbekistan's export market was 79 percent in 2017 and 75 percent in 2018. For selected products, the price differential for Uzbekistan's products between its current traditional markets and larger markets, where Uzbekistan's presence is marginal however, is significant.

**9. The WB has been assisting horticulture farmers and agribusinesses to support improved production through better access to finance.** The WB-financed Horticulture Development Project (HDP), which was approved in 2014 and received additional financing in 2018, assists improving access to long-term finance for tailored investments in horticulture value chains and building strong leading agro-firms and nuclear farms critical for future agriculture development. As of October 2019, the project financed 819 sub-projects of modern greenhouses, cold storage, packaging, and processing, and intensive orchards, helping create about 16,000 jobs, with women comprising 31 percent of full-time employees within agro-firms and horticulture farms.

**10. Reforms and modernization have also started in cotton and wheat, the subsectors under the heaviest state oversight.** During 2015-2019, more than 240,000 hectares (ha) and 100,000 ha of arable land were shifted from cotton and wheat production,<sup>18</sup> respectively, to accelerate agricultural diversification. In 2019, the state procurement prices for wheat and cotton largely reached those at the market level, although during 2016-2018 their artificially low level was estimated by the WB to have cost farmers 2.2 percent of GDP annually. Systematic child labor in cotton picking was eliminated<sup>19</sup> and the use of forced labor dropped to 6.8 percent in 2018<sup>20</sup>. The GoU has indicated a strong readiness to completely eliminate the use of forced labor and state production targets in the upcoming years.

**11. Second-generation agricultural reforms need to focus on factor market efficiency and public institutions in order to accelerate growth in agriculture in general and horticulture in particular.** This was concurred by the recently adopted Strategy for Agricultural Development 2020-2030 (hereafter *Agricultural Strategy*)<sup>21</sup>. Farmland tenure insecurity and lack of a formal land rental market remain significant challenges in the medium to long-term. In addition, the lack of a functioning financial sector and the resultant narrow availability of tailored financial products with collateral requirements deemed suitable for farmers and exporters are among the most significant short-term factors limiting the generation of quick and inclusive wins from the agriculture sector. Human capital in agriculture and technology generation and adoption also remain low, due to significant underinvestment in agricultural research and development (R&D) and extension/advisory services that are proven globally to drive long-term agricultural growth<sup>22</sup>. Uzbekistan's public investments in agricultural R&D in 2016-2018 averaged 0.02 percent of agricultural value added vis-à-vis the average of 1.0 percent in middle-income countries and 2.5 percent in high income countries<sup>23</sup>. In fact, most agricultural public goods in Uzbekistan remain severely underfinanced, limiting the growth in agricultural productivity and export. In

<sup>17</sup> WB report. 2019. *China/Russia 2030 – Opportunities for Central Asia's Agriculture*. Washington, D.C.

<sup>18</sup> Shifting land to horticulture was one of the prior actions of WB's first DPO approved in June 2018. In 2015, the cotton sowing area was 1.3 million ha, and in 2019 it declined to 1.0 million ha. The wheat sowing area declined from 1.4 million ha in 2015 to 1.3 million in 2019.

<sup>19</sup> In 2018, the US State Department removed Uzbekistan from the list of countries with systematic child labor in cotton harvesting.

<sup>20</sup> The International Labor Organization estimated the forced labor to decline to 7 percent in 2018, from 14 percent in 2015 and 13 percent in 2017, attributing it to higher wages for cotton pickers, and strong commitment with clear communication from GOU to eradicate the forced labor (2019).

<sup>21</sup> Decree of the President of Uzbekistan No. 5853 "On Approval of the Strategy of Agricultural Development of the Republic of Uzbekistan 2020-2030" dated October 23, 2019.

<sup>22</sup> WB report. 2019. *Harvesting Prosperity: Technology and Productivity Growth in Agriculture* calls for renewed focus on innovations through modernizing the agricultural R&D system to drive future agricultural productivity growth, which is key for poverty alleviation.

<sup>23</sup> WB report. 2019. *Agriculture Public Expenditure Review for Uzbekistan*. Washington, D.C.



horticulture, increasing the value of products and being a successful exporter requires much attention to quality, reliability, safety, and logistics. Uzbekistan is at the early stage of making investments in all these areas. It can increase its agricultural, and specifically horticultural, exports by addressing constraints related to: (i) availability and quality of agricultural services for raising on-farm productivity, resilience to climate change, and output quality; (ii) better value chain organization, farm cooperation, and access to suitable financial products; and (iii) facilitation of trade and marketing through better agri-logistics, enhanced phytosanitary capacity, and access to market information (see Annex 1).

**12. The Ministry of Agriculture (MOA), which needs to implement the most reforms, itself requires strengthening and modernization.** Its structure and capacity have been designed to support the planning economy agriculture, with focus on directing production of strategic crops such as cotton and wheat, centralized input delivery, and monitoring of the achievement of production targets. The Ministry's capacity for designing and implementing public programs essential for market-oriented and inclusive agriculture remains weak, despite the reduced institutional fragmentation and return of many functions to the Ministry after the split of the Ministry of Agriculture and Water Resources in 2017<sup>24</sup>. The process of preparation and adoption of the *Agricultural Strategy* has created a momentum for institutional reforms. They will need to focus on: (i) enabling the Ministry to address the challenges of transition from a centrally controlled, planned economic system to a market-based approach and orientation; (ii) aligning the Ministry's core competencies with its changing mandate; and (iii) strengthening technical departments in line with new strategic priorities and requirements.

### C. Relevance to Higher Level Objectives

**13. The proposed AMP is consistent with the GoU's Development Strategy for 2017-2021.** The main economic reform priorities under the Development Strategy focus on achieving high and sustained rates of inclusive economic growth and job creation and improving public service quality and efficiency. Focus areas include improved economic competitiveness and export-oriented growth, industrial diversification, and the reduction in the role of the state in favor of private sector and market-led production. The Development Strategy also sets out intentions to modernize agriculture to help ensure food security, while encouraging the use of drought-resistant and otherwise climate-resilient crops (reducing water consumption and building resilience to climate change).

**14. The project will support an ambitious agricultural reform strategy to transition to a market-oriented agriculture and will address key constraints for modernization of the agriculture sector.** Following more than a year of deliberations, the President of Uzbekistan announced in October 2019 the *Agricultural Strategy* to modernize agriculture. At its heart is a redefinition of the state's role and a shift to market-oriented, inclusive, and private sector-led agriculture. The *Agricultural Strategy* emphasizes reforms to: (i) strengthen the transparency of land allocation and land tenure security; (ii) eliminate the state production system for cotton and wheat, while attracting private investments in agriculture; (iii) shift agricultural public expenditures from subsidies to public goods; (iv) invest in the agricultural knowledge and innovation system; (v) enhance the management of soils and water; and (iv) collect and disseminate better data and information. It recognizes the structural and policy weaknesses of Uzbekistan's agriculture and prioritizes public investments in quality, reliability, safety, and logistics, while creating space for the private sector to benefit from public investments and generate profits and jobs.

**15. The project will support Uzbekistan in the WTO accession.** The country has recently renewed its commitment to

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<sup>24</sup> In 2017, the split of the Ministry of Agriculture and Water Resources into two ministries resulted in a significant reduction of the functional responsibility of MOA. Agricultural research institutes were moved to the Agricultural Academy of Science. Seeds department was moved to the Ministry of Innovations. Agricultural Inspection was moved to the General Prosecutor Office, while livestock and veterinary services became a separate committee and the phytosanitary services became the state plant quarantine inspection, both under Cabinet of Ministers. The Agency for implementing donor financed projects also split from MOA. Institutional fragmentation was immense. Since February 2019, however, many of these agencies returned to MOA, as a part of the government reorganization and approval of the Strategy for Agriculture Development 2020-2030.

join WTO. The project can produce results that will build trust in benefits from shifting the domestic support measures in agriculture into the “green box,” which captures the least distortive support measures, by improving the quality and delivery mechanisms of such measures (e.g., R&D, infrastructure). It will also strengthen the phytosanitary capacity of Uzbekistan to comply with the rules of the WTO Agreement on Sanitary and Phytosanitary (SPS) Measures.

**16. The project is central to the WBG’s overall engagement with Uzbekistan, as described in the revised 2016-2020 CPF.** The Performance and Learning Review of the CPF for fiscal years 2019-2021 (FY19-21)<sup>25</sup> significantly revised the CPF to adapt it to Uzbekistan’s growing social and economic transformation. More specifically, it falls under the revised CPF’s Focus Area 1 “Sustainable transformation towards market economy,” supporting a more strategic engagement in agriculture and it is also aligned with Focus Area 2 “Reform of selected state institutions and citizen engagement,” while responding to the revised CPF’s higher level goals to support growth of private sector and creation of markets.

**17. Adherence to Scale-Up Facility (SUF) criteria.** The project meets the criteria for eligibility for SUF funding. It has been mobilized for the project primarily in view of its strong transformative development impact in terms of supporting the market-oriented and inclusive transition of Uzbekistan’s agricultural sector. Project interventions are expected to lead to substantial increases in production and productivity and to enable a strong response of private sector operators all along the targeted value chains. Hence, the project’s return on investment is anticipated to be high. In addition, the project will: (i) take account of the cross-cutting priorities regarding climate change and the resilience of production systems in accordance with the country’s National Determined Contribution (NDC) priorities; (ii) address gender issues with a focus on facilitating women’s access to agricultural inputs and services, financial support, and agro-logistics centers; and (iii) foster regional integration as project interventions are expected to boost trade with neighboring countries. Uzbekistan is an IDA-eligible country at low risk of debt distress<sup>26</sup>. Its favorable long-term debt sustainability status is a positive factor regarding its use of financing under the SUF.

**18. The project follows the Maximizing Finance for Development (MFD) approach and donor collaboration’s objectives.** The MFD engagement in agriculture and more specifically in the horticulture sub-sector uses a sequenced approach to unleash the private sector potential (Annex 4). The first phase of the MFD engagement started in 2017 with policy dialogue through Development Policy Operations (DPOs) and the Country Private Sector Diagnostic (CPSD) on removing policy constraints for investment and export at scale. The second phase has focused on implementation support of the initial reforms to develop horticulture value chains through the WB-financed HDP. The AMP will initiate the third phase of MFD engagement by: (i) addressing key bottlenecks to private sector solutions in line with the *Agricultural Strategy*; (ii) using nuclear farms and lead agribusiness firms established with HDP’s support to foster productive partnerships with smaller farms; (iii) working with the International Finance Corporation (IFC) on agri-finance and good agricultural practices; and (iv) proactively collaborating with other donors in supporting agriculture (Annex 5).

## II. PROJECT DESCRIPTION

### A. Project Development Objective (PDO)

#### PDO Statement

**19.** The objectives of the project are to (i) enhance productivity-supporting agricultural services and (ii) promote market-led, high-value horticulture value chains.

#### PDO Level Indicators

**20.** Success of the project will be monitored against achievement of the following **key results indicators**:

<sup>25</sup> Report No. 126078-UZ.

<sup>26</sup> <https://www.imf.org/external/pubs/ft/dsa/dsalist.pdf> as of November 30, 2019.





- i. Farmers adopting improved agricultural technologies (*Corporate Results Indicator*).
- ii. Beneficiaries satisfied with project-supporting services (*Citizen Engagement Indicator*).
- iii. Agribusinesses that have established and maintained productive partnerships with farmers.
- iv. Horticulture as a share of total arable land area.

**21. The Project aims to support the GoU in successfully transitioning to a market-oriented and inclusive agricultural sector through agricultural growth.** Specifically, AMP will strengthen the following agricultural growth drivers: (i) the agriculture research and development (R&D) system, which will generate a pipeline of new technologies and on-the-shelf technologies and practices that have been better adapted to local environmental and social conditions; (ii) the seed and planting material production and distribution system, which will help in more widespread enhancement of yield, variety and climate-resilience in agriculture; (iii) natural resource management systems will enhance soil health and fertility, save water and promote better pest/quality management; and (iv) extension/dissemination and adoption support systems that will build knowledge capital and technical capacity of Uzbekistan's farmers. Further, AMP is expected to increase market-orientation of horticulture value chains through development of agro-logistical infrastructure; productive partnerships between producers, processors and key market players; quality-and-standards infrastructure, institutions and protocols; cooperatives to help move small farmer into higher-value production and trade; and intensive orchard cultivation to help mainstream high-value commercialization of horticulture sector.

**22. AMP will both complement and extend agriculture-related projects active in the WBG portfolio.** The Livestock Sector Development Project (LSDP), HDP, and the Ferghana Valley Rural Enterprise Development Project (FVREDP) focus on improving access to finance in horticulture and livestock value chains (through credit lines) complemented by the delivery of select agricultural public goods such as veterinary services, applied research, and market analyses, and supporting rural enterprise development in Ferghana Valley. Two ongoing irrigation projects, in Karakalpakstan and Ferghana Valley, finance modernization of irrigation infrastructure, and the upcoming *Obod Qishlaq* project focuses on rural infrastructure. IFC is active in Uzbekistan with projects/dialogue on agri-finance, good agricultural practices (GAP), food quality infrastructure, and joint-ventures for leading horticulture exporters.

## B. Project Components

**23. Component 1: Enhancing Productivity-Supporting Agricultural Services (US\$212.8 million).** The objective of this component is to enhance the knowledge and human capital base to enable accelerated productive transformation of Uzbekistan agriculture to make it more productive, climate-resilient, diversified, and market-led. Overall, the component seeks to strengthen anchor public institutions through their institutional modernization and upgrading of functional capacities to make more relevant and impactful contributions and increasingly leverage the private sector<sup>27</sup>. It also aims to establish systems and modalities to provide more relevant and effective support to farmers across a range of technical and learning needs.

**24. Sub-component 1.1 Applied agricultural research and development (US\$86.7 million).** The objective of this sub-component is to enhance the capacity of the national R&D system to develop new technologies as well as to adapt existing, on-the-shelf technologies to local social and environmental conditions and to changing circumstances over time (e.g., co-evolution of pests and diseases, degradation of water and land resources and climate change manifestations).

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<sup>27</sup> Annex 1 contains a detailed project description, including a list of institutions, centers, and agencies that will receive support. All activities related to human resource development and capacity building will include topics on understanding climate change better and frameworks, tools and techniques to facilitate designing and implementing climate adaptation and mitigation approaches. All infrastructure, including buildings, laboratories, offices, and storage facilities, constructed and rehabilitated by the project, will be encouraged to utilize energy-efficient and climate-resilient materials and designs.



Investments under this sub-component will be aligned with the strategic priorities set in the *Agricultural Strategy*. Investments under this sub-component are planned in the context of new steps being taken by GoU to revive public research institutions, including the provision of long-term budgetary financing. Expected focus areas for support include applied research on agro-ecological zone-specific climate-smart agricultural (CSA) technologies, irrigation technologies that reduce energy use, crop diversification, increasing climate resilience of the agriculture sector, conservation and utilization of germplasm<sup>28</sup>, increase in the supply of improved agricultural technologies (including variety breeding), and facilitation of technology transfer. Unique genetic materials of Uzbekistan will be preserved for future generations, through modernization of the National Gene Bank, and for technology generation suitable for local agroecology. Improvement of agricultural technologies will pay attention to development of drought-resistant and climate-resilient crop varieties and climate-smart farming practices for a range of agricultural products. Technology transfer will focus on disseminating tested technologies through advisory and extension services.

**25.** Institutions being supported under this component are expected to undertake a comprehensive functional and human capacity assessment to be financed under this project. Subsequently, each will prepare a strategic action plan, which will detail specific goals and target of relevance, actions proposed and a monitoring and accountability framework. The strategic action plan will describe pragmatic measures to increasingly involve the private sector – which is currently weak or not present in these areas – as appropriate. Finally, the action plan will be accompanied by a human resource development plan, which will identify skills gaps and other learning needs, and steps to be taken to help the institutions re-orient themselves to their revised goals and targets and institutional strategies to achieve them. These assessments and plans will underpin the support to be provide under this project to these institutions.

**26.** Main elements of support under this sub-component will be the financing for: (i) human resource development, including training on climate mitigation and adaptation approaches, workshops, seminars, conferences, and experience sharing (exchange) visits; (ii) construction (of new), rehabilitation/renovation (of existing), and refurbishment (of both new and existing) infrastructure<sup>29</sup> for administration and research, including laboratories, offices, storage facilities<sup>30</sup>, green and glass houses, lath houses, gene bank, and horticulture innovations center; (iii) upgrade of irrigation infrastructure/facilities on research farms that would reduce energy use; (iv) establishment and/or upgrading of information and communications technology (ICT) infrastructure; (v) establishment and/or strengthening of demonstration plots and demonstration orchards and greenhouses; (vi) procurement of laboratory equipment, reagents, field equipment, farm machineries, and vehicles that would be energy efficient; and (vii) procurement (acquisition) of germplasm.

**27. Sub-component 1.2 Seed and seedling production (US\$37.0 million).** Due to the past underinvestment in agricultural R&D, seed production, and seed/seedling quality assurance system, more than 90 percent of horticulture seedlings and seeds in Uzbekistan are currently imported. Some of them is not suitable for different agroecological zones, which is penalizing farmers and foregoing the country's export opportunities. The objective of this sub-component is to rebuild local seed and seedling production systems, focusing on critical public functions. Specifically, it will seek to: (i) increase the supply, in sufficient quantity and acceptable quality, of elite and super-elite seeds, seedlings, and other planting materials to private sector multipliers for commercial seed production and sales to farmers; and (ii) develop and update guidelines related to seed production, testing and registration, and certification for public and private sector seed/seedling nurseries. Increasing the supply of super-elite and elite seeds/seedlings that are demanded by beneficiaries will aim for drought and pest-resiliency and alignment with different agro-ecological zones.

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<sup>28</sup> In accordance to NDC targets for adaptation.

<sup>29</sup> Investments in climate proof and energy efficient infrastructure will be pursued.

<sup>30</sup> Investments in storage facilities will be designed with an objective, among others, to reduce exposure of products to extreme weather conditions.



**28.** The sub-component will strengthen institutions involved in (and responsible for) variety registration, seed production, and seed/seedling quality assurance to achieve the above stated objectives. Support will include: (i) human resource development, including training on CSA and policy options to scale it up, workshops, seminars, conferences and study tours; (ii) construction (of new), rehabilitation/renovation (of existing), and refurbishment (of both new and existing) infrastructure<sup>31</sup> such as office, storage<sup>32</sup>, laboratory etc. buildings; (iii) upgrade of irrigation infrastructure/facilities on state seed farms; (iv) establishment and/or upgrading of ICT infrastructure; (v) procurement of laboratory equipment, reagents, field equipment, farm machineries and vehicles that would be energy efficient; and (v) support of accreditation of laboratories, including to the International Seed Quality Control Agency's requirements.

**29. Sub-component 1.3 Natural resource management (US\$14.1 million).** The objective of this sub-component is to increase farmers' awareness of their soils, water situation and bio hazards, and succeed in replacing blanket recommendations with test-based recommendations and CSA. This will entail generation of agro-technological and other maps, including by using digital and remote-sensing technologies, a broader menu of options for farmers as a part of the development of GAP and climate-smart mechanization tailored to specific needs of agro-ecological zones of the country. This sub-component will have three focus areas: (i) enhancing land productivity, through improving soil fertility/health and addressing land degradation (especially high soil salinity in many parts of Uzbekistan); (ii) water conservation, through use of latest technologies and practices, including digital and remotely-sensed technologies; (iii) pests and other bio and natural hazards; and (iv) build capacity of MOA and other public institutions on climate-smart practices that lead to reduction in greenhouse gas (GHG) emissions and fertilizer use. Declining soil fertility and high soil salinity in Uzbekistan hamper agricultural productivity, thereby making investments in land productivity enhancement imperative. Especially for horticulture farmers a basic knowledge about soil status, nutrient management, water conservation and other CSA practices is lacking. Land that is currently being shifted from cotton and wheat to horticulture production is often of degraded (poor quality and saline), requiring additional farm investments in fertility recovery and maintenance.

**30.** Support under this sub-component will include: (i) upgrading soil and water testing laboratory infrastructure; (ii) strengthening land mapping capacities (with investments in technical assistance, critical equipment, ICT and software) and digitalizing land/soil map information with open-data access; (iii) developing best practice guidelines on soil monitoring, mechanization practices/techniques, and fertilizer use adjusted to different soil types and agro-ecological zones as part of GAP guidelines and CSA capacity building, while making this information available to farmers through field-based extension services; (iv) supporting design of climate-smart and small farm suitable machinery and equipment; and (v) piloting new digital technologies for soil and water testing/scanning, specifically portable field-based soil testing equipment to allow extension/advisory service officers to provide real time advice to farmers on soil and water quality and on adjustments needed to enhance natural resource management. The sub-component will also support capacity building to experts, scientists and local communities in natural resource management through a combination of: (a) awareness creation and training; (b) provision of field and office equipment and critical supplies; and (c) provision of extension services such as demonstrations, field days and 'hands-on' exercises.

**31. Sub-component 1.4 Farmer adoption support (US\$75.0 million).** The objective of this sub-component is to provide more effective knowledge and advisory support for adoption of productive and CSA technologies and practices to enable more reliable and higher quality outputs by farmers. Accordingly, modalities and arrangements will be developed that make the delivery of services effective, pluralistic, inclusive, and demand-driven. Advisory and extension services are a key element in developing human capital in rural areas. Agriculture is the main economic activity there, and advisory and extension services are probably the one channel for offering rural people on-farm trainings, including

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<sup>31</sup> Investments in climate proof and energy efficient infrastructure will be pursued.

<sup>32</sup> Investments in storage facilities will be designed with an objective, among others, to reduce exposure of products to extreme weather conditions.

for women and youth, who otherwise do not have any access to vocational and higher education training<sup>33</sup>. The sub-component aims to achieve this by supporting: (i) advisory and extension centers; (ii) service provision, including technology transfer through demonstrations, awareness creation, field and/or farmers' days, exhibitions, and trainings, including for cooperatives and partnerships; and (iii) intensive orchards pilots.

**32. *Advisory/extension centers:*** The sub-component will pilot the establishment of resource centers in selected districts to organize advisory and extension activities. Initially, twenty-six district level centers, in two districts per region, will be established to generate lessons for future scale up. Financing will include support for development of the institutional structure, and guidelines defining roles, responsibilities, accountability, financing, and functional processes. The MOA will lead activities related to establishing extension system from the central level. The establishment and/or strengthening of advisory and extension centers at central, regional, and local levels will involve: (i) development of training materials and training of trainers in the extension centers, especially on climate adaptation and mitigation approaches; (ii) construction of new, renovation/rehabilitation (of existing) and refurbishment (of both new and existing) infrastructure<sup>34</sup> such as buildings, including training halls, audiovisual units, libraries and class rooms; and (iii) procurement of equipment, digital tools, farm machinery, vehicles, and demonstration materials, including inputs, field equipment, and audio-visual materials. To the extent possible, appliances will be energy-efficient.

**33. *Service provision:*** Service provision will focus on transfer of tested, low-cost, and scalable CSA technologies generated by sub-components 1.1-1.3 and from other sources to farmers. In doing so, the sub-component will cover costs associated with demonstrations of technologies both at advisory and extension centers and on farmers' plots, including the financing of operating costs and the procurement of inputs, training, workshops, and experience sharing (exchange) visits. Training activities will focus on bridging knowledge and skill gaps for farmers and staff of the advisory and extension centers, and capacity building of farm cooperatives (e.g. business coaching, CSA<sup>35</sup>) and productive partnerships to help sustain the long-term collaboration between agribusinesses and farmers. The sub-component will also finance servers and computers to ensure internet connectivity to enable extension services to access knowledge database and agro-meteorological data and develop digital solutions for extension delivery and increasing outreach.

**34. *Intensive Orchard Pilots:*** Uzbekistan has huge natural and competitive advantages in production of orchard fruits. These operations typically generate very high returns. Also, being highly labor intensive they create a significant number of durable and relatively well-paid jobs. However, this segment is severely under-developed due to a set of deep challenges. Orchard plantations are long-gestation investments, typically requiring long-term (5-10 years) finance/loans; however, the longest-term loans currently available to farmers are for 1-2 years, and that too backed by non-land collaterals. Orchard farming also require specialized agronomic inputs and climate resilient technologies. Unless it is organized collectively or at a sufficient scale, these skills are not easily available to small farmers working on their own. Also, since these target higher-value segments and dynamic export markets, they require significant commercial and management skills. The GoU has declared an ambitious plan to rapidly develop the orchard farm segment, targeting 37,000 ha by 2021.

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<sup>33</sup> Higher education attainment in Uzbekistan is one of the lowest in the region, at 10 percent. Only one out of ten qualified applicants were accepted at universities in 2019.

<sup>34</sup> Investments in climate proof and energy efficient infrastructure will be pursued.

<sup>35</sup> Specific topics can include improving farmers' skills in countering the increased incidence of pests, improved training for the selection of pest-resistant and/ or heat-stress-tolerant seed and crop varieties and providing information on improving on-farm water use efficiency. Topics come from stakeholder consultations undertaken in preparation of: Sutton, W. *et al.* 2013. *Reducing the Vulnerability of Uzbekistan's Agricultural Systems to Climate Change: Impact Assessment and Adaptation Options*. Washington, DC: World Bank.



35. This sub-component will assist in this vital transformation by piloting establishment of intensive orchard farms (with tentative budget of US\$65 million)<sup>36</sup>. The aim of the sub-component is to establish demonstration/extension pilots for intensive orchards in selected districts specialized in horticulture production, which will help, *inter alia*, with the collective organization of an interested group of farmers, build up their technical and managerial capacities over time, and assist with provision of finance as well as external agronomic and business inputs needed for the orchard farms to succeed. Adoption of climate resilient technologies will be key to success of these investments. The pilots will involve commercially-driven farmers and executed as turn-key services provided by competitively-recruited private companies.

36. **Component 2: Supporting Investments in High-Value Horticulture Value Chains (US\$200.0 million).** The objectives of this component are to support investments in crop diversification and high-value horticulture value chains, facilitate farmers' participation in investment opportunities created by economic liberalization, and enable productive partnerships/clusters between farm groups and agribusinesses. These objectives will be achieved through a mix of technical support, provided under sub-component 1.4, and two credit windows that would offer long-term financing tailored to the needs of farmers and agribusinesses:

- i. *Credit window for farm cooperatives and cooperation in horticulture sector (US\$50.0 million):* This window will provide loans to horticulture farm cooperatives and participants of the cooperations in horticulture sector for investments in infrastructure, machinery and equipment, and other assets to promote their collective actions. Typical investments would be in intensive orchards and greenhouses, energy efficient irrigation systems; solar water heating systems and water lifting using solar photovoltaic stations; adoption of other climate-smart water-saving and mechanization technologies; and processing and storage facilities, including to reduce exposure to extreme weather conditions. Farm cooperatives will be supported by sub-component 1.4 that seeks to strengthen their business capacity and help them prepare bankable climate-informed business plans to receive loans.
- ii. *Credit window for productive partnerships (US\$150.0 million):* This window will provide loans to agribusinesses - in trading, processing or final food industries - entering into formal contract agreements with farmers and farm cooperatives by establishing productive partnerships, including the provision of advisory services to farmers for amongst others better understanding of climate risks and available adaptation measures (e.g. use of CSA technologies and practices) and mitigation opportunities (e.g. energy efficient irrigation systems; solar water heating systems and water lifting using solar photovoltaic stations, support the conversion of some land from production of annual cotton and wheat crops to perennial fruits and vineyards), investments in climate resilient infrastructure, and value chain financing, e.g. working capital financing between businesses within a supply chain. Farmers participating in productive partnerships could also borrow. Value chain financing can help address the input credit constraint faced by small producers, who have contracts with processors or exporters.

37. **The credit line will be implemented through participating financial institutions (PFIs), building on the strong established practices of using credit lines under HDP and LSDP.** The credit line will be implemented according to a project specific operational document, "the Credit Line Guidelines," that will be agreed with the Ministry of Finance (MOF) and compliant with the WB Guidance for Financial Intermediary Financing. Terms and conditions of the credit line will be articulated in the Credit Line Guidelines and their fulfillment will be a condition for any disbursement of credit line funds. PFIs will sign subsidiary loan agreements (SLAs) with MOF based on the terms agreed in the Credit Line Guidelines. Climate-resilient investments will be encouraged in the Guidelines. Credit will be available in foreign currencies and UZ Soms at the market interest rate. Annex 6 provides more details.

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<sup>36</sup> This budget will be sufficient to cover about 3,000 ha of intensive gardens, with pilots to be conducted in 10-15 districts involving approximately 300 commercial farmers.





**38. Component 3: Facilitating Trade and Marketing (US\$77.5 million).** The objective of this component is to improve access of Uzbekistan's horticulture products on both internal and external markets through improvements in: (i) agro-logistics; (ii) plant protection and quarantine measures; and (iii) market information collection and dissemination.

**39. Sub-component 3.1 Establishing agro-logistical centers in selected regions (US\$65.0 million).** The objective of this sub-component is to create markets by improving agro-logistics infrastructure. The project will finance construction of agro-logistical centers (ALCs)<sup>37</sup>, tentatively in Bukhara and Khorezm regions, which will be part of an integrated ALC network in the regions and in Tashkent. The Asian Development Bank (ADB) plans to finance six of such ALCs country wide, and financing for the first three in Tashkent, Andijan and Samarkand has been already secured<sup>38</sup>. The regional ALCs will be connected to a central hub in Tashkent to support the horticulture sector export, promote CSA through crop diversification, improve food distribution and food safety, reduce food loss and waste, and facilitate market access for farm cooperatives and smallholders supported under Component 2. Each ALC could have two functions: (i) a wholesale market, targeting mainly the supply of the cities; and (ii) a logistics area dedicated to cross-docking, storage<sup>39</sup>, transformation, packing, and on-line platforms for exports. Streamlined processing platforms, including improved and new storage facilities, reduce the risk of losses due to climate, and increase resilience.

**40.** Investments in ALCs will be guided by the forward-looking Agro-Logistics Infrastructure Strategy and Plan, which is currently under preparation by the working group under MOA, with the support of ADB, Food and Agriculture Organization (FAO) of the United Nations, WB, and the United States Agency for International Development (USAID). The ALC Strategy and Plan will consider commercial opportunities, volumes and directions of trade, demand and supply outlooks, and private sector investments in cold storage and logistics. The project will use the ALC Strategy and Plan and derive lessons from the first set of ADB investments to invest in regional ALCs. Options used globally for the management and operation of ALCs and considered in Uzbekistan include private operator concession and semi-public-company-concession arrangements.

**41. Sub-component 3.2 Strengthening plant protection and quarantine capacity (US\$5.0 million).** The objectives of this sub-component are to strengthen the capacity of Plant Protection Services under MOA and the State Plant Quarantine Inspection (SPQI) under the Cabinet of Ministers to perform phytosanitary inspections, help farmers protect against pests and meet phytosanitary requirements, and negotiate phytosanitary market access. The number of pests and diseases has increased substantially over the last few years. Warmer temperatures are favorable to pests, and some of the diseases are new to Uzbekistan.

**42.** The SPQI has recently managed to open the markets of India, China, and Korea for several products such as pomegranate, cherries, melons, and grapes. The largest markets for Uzbekistan's horticulture products remain Kazakhstan and Russia, for which there are currently no significant restrictions, but where phytosanitary regulations are becoming stricter following global trends. Uzbekistan's goods exported to these countries are periodically rejected, returned or destroyed at the border, when quarantine pests are detected in shipments.

**43.** Investments under this sub-component will include: (i) equipment for pest identification for the central laboratory of SPQI, laboratory equipment for fumigation testing/analysis in SPQI, and for pest detection and eradication (plant protection) activities; and (ii) capacity development for pest control to perform plant protection, phytosanitary inspection, testing and certification actions regarding key exporting crops. The sub-component will include strengthening links between plant protection, SPQI, and CSA scale up, in particular Integrated Pest Management (IPM) at farm level.

<sup>37</sup> Construction will be climate proof and energy efficient.

<sup>38</sup> ADB Loan 3737-UZB: Horticulture Value Chain Infrastructure Project in the amount of US\$197 million. It will finance three (3) ALCs, with the average unit cost of US\$65 million. The WB allocation for two (2) ALCs will be for smaller centers, with the average cost of US\$30-32 million.

<sup>39</sup> Investments in storage will be designed with an objective, among others, to reduce exposure of products to extreme weather conditions.

**44. Sub-component 3.3 Strengthening market information system (US\$7.5 million).** The objective of this sub-component is to further develop the market information system at MOA and to promote improved use of agricultural market intelligence and information systems on agricultural prices, market development, and other statistics. The project will assess the system of market information and dissemination and will implement demand-based improvements in coverage and outreach through website, extension services, and awareness raising campaigns, including on climate change and opportunities to implement climate adaptation and mitigation approaches. The project will also invest in human resource development, digital infrastructure and solutions and in support for market intelligence to facilitate identification of medium-and long-term opportunities for suitable products and inform investment decisions that respond to climate change vulnerability. The project will pay attention to channel information through technologies that are accessible also to women farmers and agri-entrepreneurs. The system will be hosted in MOA, which will be responsible for its maintenance and management.

**45. Component 4: Supporting Project Management (US\$9.0 million).** This component will support project management, coordination, monitoring and evaluation (M&E), and implementation of environmental and social measures under the WB Environmental and Social Framework (ESF). A project implementation unit (PIU) will be established to coordinate implementation, including fiduciary aspects; knowledge management/communication; grievance redress mechanism (GRM); citizen engagement; and monitoring the implementation of ESF related issues. The project will cover PIU staff related costs (training etc.), goods, equipment and vehicles, incremental operating costs, and other eligible expenses associated with project implementation. PIU will be located in the Agency for Implementation of Projects in the Field of Agroindustry and Food Security (UZAIFSA), under MOA. The breakdown of the project costs by sub-component/component and the source of funds is presented in Table 1.

**Table 1: Project costs (US\$ million)**

Components	IBRD	IDA SUF	IDA Country	Beneficiary Funding	Government Contribution	Total
<b>Component 1: Enhancing productivity-supporting agricultural services</b>	<b>0.0</b>	<b>15.3</b>	<b>197.5</b>	<b>0.0</b>	<b>32.4</b>	<b>245.2</b>
1.1 Applied agricultural research and development			86.7		13.0	99.7
1.2 Seed and seedling production		15.3	21.7		5.4	42.4
1.3 Natural resource management			14.1		2.7	16.8
1.4 Farmer adoption support			75.0		11.3	86.3
<b>Component 2: Supporting investments in high-value horticulture value chains</b>	<b>180.5</b>	<b>19.5</b>	<b>0.0</b>	<b>34.0</b>	<b>29.8</b>	<b>263.8</b>
2.1 Credit line window for cooperatives	30.5	19.5		5.0	7.9	62.9
2.2 Credit line for agribusinesses establishing productive partnerships	150.0			29.0	21.9	200.9
<b>Component 3: Facilitating trade and marketing</b>	<b>0.0</b>	<b>65.0</b>	<b>12.5</b>	<b>0.0</b>	<b>13.1</b>	<b>90.6</b>
3.1 Establishing agro-logistical centers in selected regions		65.0			11.0	76.0
3.2 Strengthening plant protection and quarantine capacity			5.0		1.8	6.8
3.3 Strengthening market information system			7.5		0.3	7.8
<b>Component 4: Supporting project management</b>			<b>9.0</b>		<b>0.7</b>	<b>9.7</b>
<b>Front-end fee</b>	<b>0.5</b>	<b>0.2</b>			<b>0.0</b>	<b>0.7</b>
<b>TOTAL</b>	<b>181.0</b>	<b>100.0</b>	<b>219.0</b>	<b>34.0</b>	<b>76.0</b>	<b>610.0</b>

### C. Project Beneficiaries

**46. Primary beneficiaries.** The project's primary beneficiaries are farmers, both *dehkan* and larger farms, agri-

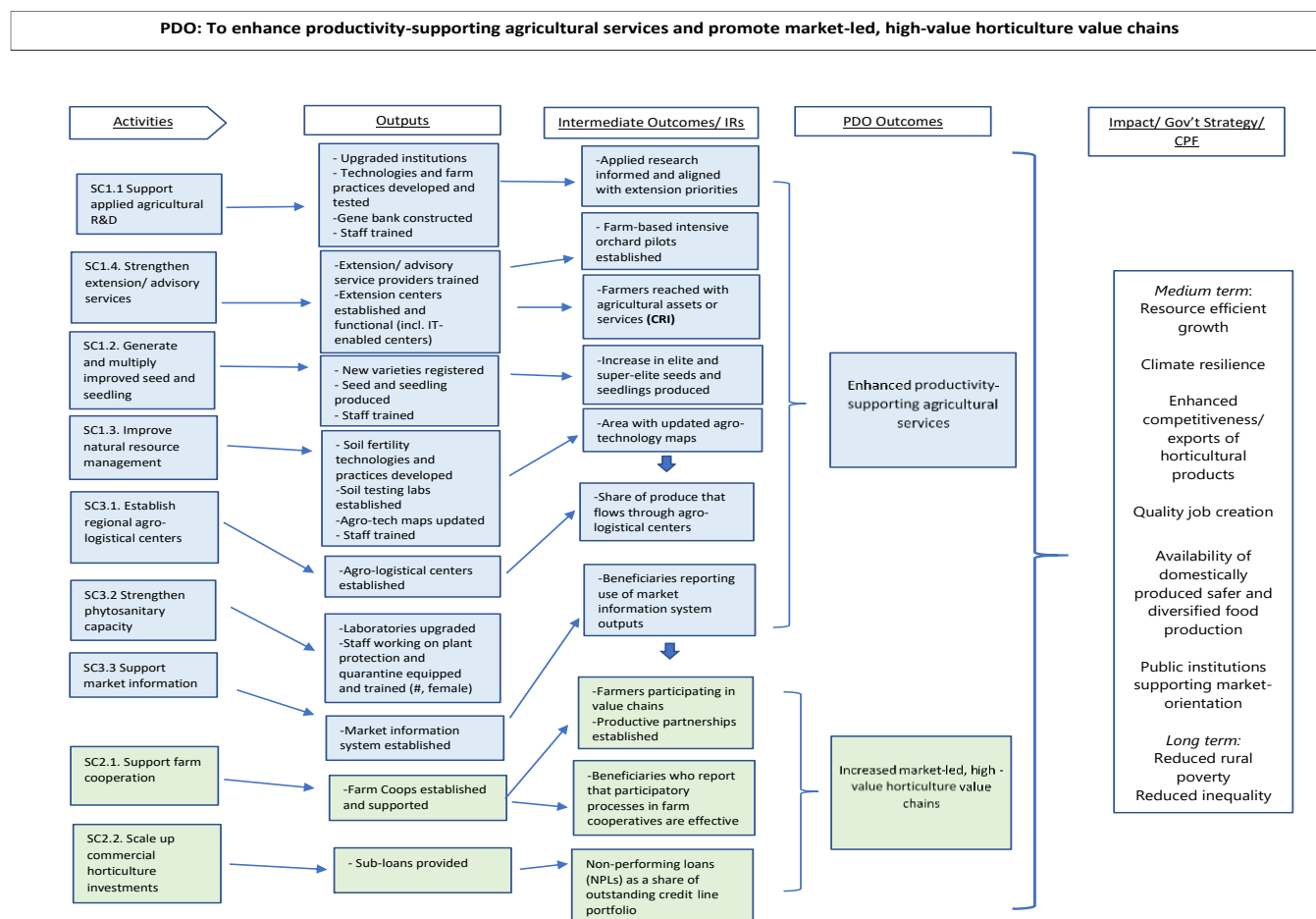
businesses, exporters, and service providers operating in horticulture value chains. Primary beneficiaries will also be the staff of public institutions, from agricultural researchers and extension officers to the staff working in various MOA departments and agencies and in the local government. Secondary beneficiaries will be PFIs, gaining from improved skills and acquisition of a more diverse menu of suitable financial products.

**47. Geographic focus and selection criteria.** The project will be open to beneficiaries located in all 13 regions of the country. The focus will be on the districts specialized in horticulture. At appraisal stage, there were 55 such specialized districts in Uzbekistan. With the accelerated conversion of cotton and wheat land to horticulture production, the number of horticulture-specialized districts is expected to increase during project implementation.

## D. Results Chain

**48. The project's Theory of Change** is built on the problem statement that farmers and agribusinesses operate in an environment characterized by a low-productivity system, segmented value chains, and little capital investment, which is not conducive for economic development and hinders the private sector from increasing competitiveness and accessing export markets (Figure 1). AMP focuses, therefore, on two areas of change to: (i) enhance productivity-supporting agricultural services; and (ii) promote market-led, high-value horticulture value chains. The expected PDO level outcomes feed into achieving goals set by GoU and meet the WBG goals.

**Figure 1: Project's Result Chain and Theory of Change**







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

**49. WB became a trusted partner for the GoU during preparation of the *Agricultural Strategy*.** The GoU anticipates WB support also for implementation of the *Agricultural Strategy*. AMP will provide a mix of financing and a wide range of global experience in agricultural innovations system, models for inclusive value chain development, and agro-logistics.

**50. The WB financing under the project will focus on addressing market failures and providing public goods that are currently not being met by public or private sectors.** The project will follow the MFD approach presented in Annex 4. Project investments will promote generation and dissemination of knowledge and information through agricultural R&D and extension services, which are globally accepted as public goods. Project investments will also address market failures such as the lack of information, inclusion, and coordination among market actors and the lack of long-term financing suitable for farmers and agribusinesses involved in horticulture value chains.

**51. The project will be adhering to the commitment made by bilateral and international partners to coordinate financial support to Uzbekistan and will actively coordinate with other development partners and complement their investments and technical assistance.** Coordination will be conducted at the strategic level under MOA's leadership and at the project level under UZAIFSA's leadership. Collaboration with the European Union (EU) will be on its 40 million Euro agricultural budget support, which focuses on improving agri-foods safety and trade quality standards, related agri-food laboratory accreditation system, GAP farm assurance system, food and nutrition, and agricultural land use rights and tenure security. Collaboration with ADB and USAID will be on developing a joint plan for agro-logistical networks development and consequent investments in these centers. With FAO, GIZ (Deutsche Gesellschaft für Internationale Zusammenarbeit or German Agency for International Cooperation), and USAID, the project will work on capacity building of public institutions, especially for soil fertility management, extension services, and phytosanitary measures. The project will coordinate with the Japan International Cooperation Agency (JICA) on investments in horticulture and with IFC on agri-finance, GAP, and joint-venture pilots for lead horticulture exporters (see Annex 5 for more details).

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

**52. Access to long-term finance suitable to the needs of farmers and agribusinesses remains important to realize a full horticulture sector potential and encourage private investments.** The HDP experience shows that improved access to finance is critical to establish lead agribusiness firms and nuclear farms that drive and catalyze agricultural development<sup>40</sup>. The project's credit line provides the required long-term finance for such developments and serves a niche that is not yet catered to by commercial banks for various reasons, while the project will generate a demonstration effect for local banks to note the benefits of offering these lending products. Yet, progressing from strengthening individual farms and firms to strengthening horticulture value chains and making them more inclusive (by allowing for stronger participation of smallholder farmers) requires more targeted credit, with conditions attached to it to encourage collective actions and complemented with a wide range of public programs.

**53. International best practices suggest several key factors that contribute to building high-performing public research institutes that are more efficient and responsive to the needs of the agriculture sector.** They include stable and diversified financing: (i) combining the core budget with research grants and incomes from commercial activities increases sustainability and improves performance of public research institutes; (ii) aligning programs with client needs and encouraging close collaboration between research and extension; and (iii) engaging with productive partnerships and farm cooperatives to determine research priorities. International experience also suggests that reform of the research institutes requires time and changes that respond to the country's context and overall administrative reform.

**54. Increasing the adoption rate of improved agricultural technologies requires improving the enabling**

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<sup>40</sup> As of October 2019, the project supported more than 800 of such beneficiaries.



**environment.** This includes the following policy elements: (i) removing policy biases against agriculture, which has been the main reform effort of the GoU since 2017; (ii) increasing market access to enable increased farm profitability and removing barriers for technology adoption; (iii) increasing farmer capacity through investments in human capital delivered in the form of extension/advisory services and trainings. These allow farmers to better evaluate technology opportunities and manage technology-related investments. In line with findings from the WB's Human Capital project, the average attainment levels and the quality of schooling in rural areas trail that of urban areas. This is particularly the case for women, who form a large part of the agricultural workforce and often manage their own farms; and (iv) increasing the flow and quality of information to farmers to increase technology adoption.

**55. The project builds on the experience from WB-supported productive partnerships.** Global experience suggests that being part of a value chain contributes to farm productivity increases and higher output prices. In addition, there are positive spillover effects for non-value chain members in terms of technology learning, but also in terms of a demonstration effect in incentivizing similar contracting mechanisms in other crops. Supporting value chain development and making them more inclusive require: (i) promoting collective action through capacity building and access to suitable finance; (ii) providing incentives for lead agribusiness firms to build productive partnerships with farmers and farm groups under credible contracting arrangements; and (iii) extending essential infrastructure such as agro-logistics to create markets and increase value added from primary production. The global experience also suggests a range of options and approaches for fostering partnerships. In Latin America, for example, the WB has been successful in supporting productive partnerships using the bottom-up approach and matching grants for linking farm group with agribusinesses<sup>41</sup>. In East Asia, especially in China and Vietnam, the WB has used a mix of subsidized credit, matching grants, and technical assistance to encourage agribusiness enterprises to enter into production partnership with smallholders<sup>42</sup>.

**56. Designing functionable agro-logistical centers requires particular attention to initial assessment of agri-food sector operators and a precise analysis of food distribution systems.** International best practices in the development of agro-logistical centers highlight different key factors for a successful implementation: (i) accurate knowledge of food distribution organization at the regional and national levels; (ii) capacity to design and provide services responding to the operators' needs, future users of the centers; (iii) ability to phase the project to secure the investment; and (iv) quality of the technical assistance to support the start-up of operational activities.

### III. IMPLEMENTATION ARRANGEMENTS

#### A. Institutional and Implementation Arrangements

**57. The primary implementing agency for AMP will be MOA.** UZAIFSA, which since October 2019 started reporting to MOA, will be responsible for coordination and facilitation of day-to-day implementation of the project in close collaboration with other implementing institutions, which include research institutes, departments, centers, and agencies answerable to MOA, and SPQI and the Agricultural Inspection, both under Cabinet of Ministers. It will host the PIU, which will be responsible for fiduciary aspects of the project implementation and provision of support to the implementing institutions. The central office of UZAIFSA, located in Tashkent, will be supported by its thirteen (13) regional offices, which have been established to support implementation of IFI projects.

**58. UZAIFSA will also be responsible for monitoring of the credit line implementation.** PFIs will implement the credit line, but due diligence will be carried out by UZAIFSA, with the support of qualified staff and consultants. PFIs will be responsible for selection of recipients for the credit line, appraisal of sub-project loans, and disbursement of loans.

**59. UZAIFSA is well experienced with implementing donor-financed projects on agriculture.** It is the satisfactorily

<sup>41</sup> WB report. 2016. *Linking Farmers to Markets through Productive Alliances: An Assessment of WB Experience in Latin America*. Washington, D.C.

<sup>42</sup> WB's Project Appraisal Document. 2005. *Agricultural Technology Transfer Project in China*. Washington, D.C.



performing implementing agency of all three agricultural WB projects (i.e. LSDP, HDP, and FVREDP). It is also responsible for implementation of agricultural projects financed by ADB, IFAD, and JICA. The final details of the institutional and implementation arrangements will be provided in the Project Operations Manual (POM).

## **B. Results Monitoring and Evaluation Arrangements**

**60. The project will support UZAIFSA to develop and implement the M&E system and framework to monitor progress toward PDO and intermediate indicators.** It will comprise both regular quantitative data collection with periodic qualitative surveys on key thematic areas. The M&E system will be designed in such a way as to link technical and financial data regarding project implementation, so that it serves to establish a project Management Information System.

**61. UZAIFSA will be responsible for overall M&E of project outputs and impact, as well as the development and monitoring of annual work plans.** A full-time M&E specialist will be appointed for leading the results measurement, with guidance from WB, and for compiling M&E data for consolidation into project progress reports. M&E system will include baseline, mid-term, and end of project surveys and studies to be carried out by independent specialists that will be recruited under AMP. Semi-annual joint implementation support missions with representatives from WB and GoU will ensure compliance with legal covenants and implementation progress. A mid-term review will be undertaken three years after project effectiveness to review progress and, if necessary, adjust project design. An Implementation Completion and Results Report will be prepared by GoU and by WB within six months after the project closes to assess achievements.

## **C. Sustainability**

**62. The project's sustainability is reinforced by GoU's strong ownership of the overall project concept and design elements, which emerged from the request to support the implementation of the *Agricultural Strategy*.** The project supports activities that were thoroughly identified and selected during consultations with many stakeholders involved in preparation of the *Agricultural Strategy*. The project follows an integrated approach of including a mix of investments in agricultural services, organization of the value chains, and trade facilitation, that constitute building elements of the comprehensive strategy ensuring long-term sustainable outcomes.

**63. The project's sustainability is also reinforced by GoU's commitments to further agricultural reforms.** MOA is engaging with the EU to pursue reforms on agri-foods safety and trade quality standards, related agri-food laboratory accreditation system, GAP farm assurance system, and agricultural land use security as a part of the proposed agricultural budget support. The proposed reform and technical assistance areas complement the AMP investments, increasing their sustainability and impact.

**64. GoU has committed to increase agricultural public expenditures, including for the institutions participating in the project.** The *Agricultural Strategy* envisages an increase in public expenditures on core public goods, such as key agricultural services and agro-logistics, many of which are the part of the project. In addition, the agricultural research institutes will start receiving core budget financing from January 2020, covering their staff salaries, operating expenses, maintenance, and some capital expenditures. As of now, the most agricultural research institutes receive only grants to finance specific projects. The change in budget financing of the institutes will ensure sustainability of AMP investments.

**65. Technical sustainability of credit line** will be ensured through provision of relevant training and hands-on technical assistance to PFIs. They will be trained in applicability of the new financial products, assessing the suitability and effectiveness of these new products, and on mitigation of the related risks. The sustainability of the funding that PFIs will be receiving will be also ensured by using UZAIFSA that has accumulated extensive experience and continues to monitor the implementation of the previous WB-financed credit lines.

## IV. PROJECT APPRAISAL SUMMARY

### A. Technical, Economic and Financial Analysis

**66. Technical design.** Technical design of many project activities is kept flexible reflecting the early stage of reforms and need for experimentation and piloting. Technical design of productivity and climate resilience enhancing activities will be based on well-established and tested locally and globally agronomic practices being promoted under WB, GIZ, and USAID supported projects in Uzbekistan. Design of the agricultural extension and advisory services will be based on an assessment of options from international experiences and local consultations. A pilot of twenty-six extension/advisory centers, two per region, will generate lessons for future scale up nation-wide. The introduction of national GAP and certifications will strengthen the trade position of the participating value chain actors, and the entire sector. Improving awareness and providing training and access to respective certifications is crucial for producers, processors, and exporters. The design of the credit line is supported by successful experience of the ongoing WB projects and extensive consultations with private sector and interested commercial banks on options to support inclusive value chains.

**67. The proposed Credit Line was reviewed for compliance with WB's provisions for OP10.0 FIF, which governs the WB financial intermediary lending (FIL).** The review found that the proposed Credit Line is broadly in line with guidelines. The review requested to ensure that the on-lending interest rate from PFIs to end borrowers is sufficient to cover: (i) cost of funds, (ii) administrative expenses, (iii) loan loss risk (based on historical data if available) and (iv) a small profit margin to compensate the PFI for taking the credit risk, as the WB policy does not permit subsidized interest rates due to the implications for sustainability. The review noted the risks associated with the largely public ownership of the potentially participating commercial banks and requested close monitoring of such PFIs to ensure their commercial orientation. The review also requested to closely monitor the key information on PFIs, the financial sector, credit line portfolio quality, and credit pricing and risk allocation. The design of ALCs will be underpinned by experience in operation of ALCs in France, Italy, and Spain. Measures to strengthen the phytosanitary capacity of SPQI are based on the lessons learned and experiences of the reform of Russia's plant quarantine inspection and the WTO's SPS requirements.

**68. Economic and financial analyses.** Main project benefits will be generated through the increase in productivity and profitability of the existing horticulture production through adoption of improved technologies, soil nutrient management, as well as improved quality of outputs and better access to markets. Improved technologies are projected to be adopted on 70 percent of the project target area, i.e. 35,000 ha. An investment horizon of 15 years is used in the analysis to account for the phasing and gestation period of the orchards. The Economic Net Present Value, discounted at 6 percent, is estimated at US\$570 million. The Economic Rate of Return is estimated at 26.5 percent.

**69. Shadow price of carbon.** The estimation of the net balance from all GHG expressed in CO<sub>2</sub>-equivalent that would be emitted or sequestered within the potential sub-projects was made and the social price of carbon was included in the economic analysis. According to the calculations in EX-ACT, the project showed a total balance of 501,344 tons of CO<sub>2</sub>-equivalent, which means that the project will have a positive carbon sequestration balance. The overall carbon benefit is estimated to range between US\$15 million in the low shadow price of carbon scenario to US\$30 million in the high shadow price of carbon scenario. Incorporation of this benefit into the economic analysis increases economic rate of return by 0.8 percent and 1.7 percent, respectively.

**70. Climate co-benefits.** In 2017 Uzbekistan submitted its Intended Nationally Determined Contribution (INDC) to the UN Framework Convention on Climate Change<sup>43</sup>, where the country emphasized the existing and future climate vulnerabilities for agriculture, in addition to explicitly including agriculture in its proposed adaptation as well as mitigation strategies, policies, programs, and measures. Nationally proposed measures and actions for adaptation to climate change

<sup>43</sup> [https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Uzbekistan%20First/INDC%20Uzbekistan%2018-04-2017\\_Eng.pdf](https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Uzbekistan%20First/INDC%20Uzbekistan%2018-04-2017_Eng.pdf)



in agriculture are closely related to mitigation measures, and they include: improvement of the climate resilience of the agriculture through diversification of food crops production pattern; conservation of germplasm and indigenous plant species and agricultural crops resistant to droughts, pests and diseases; development of biotechnologies and breeding new crop varieties adopted to conditions of changing climate.

**71.** AMP is expected to generate significant climate co-benefits by promoting a range of activities that will: (1) enhance the adaptation capacity of farming systems in the project area. This will be achieved through *inter alia* the adoption of climate-resilient (drought tolerant) crop varieties by farmers, crop diversification for increased production of higher value and nutrient-rich horticulture products, and climate-smart practices that improve soil health and reduce land degradation. Project activities will also (2) mitigate GHG emissions through carbon sequestration by growing fruit trees. Overall, the project will facilitate the conversion of cotton fields into horticulture fields, which will be a shift away from cotton/wheat monoculture to more diversified rotations and farming system, which: (i) is more resilient to climate shocks; (ii) has a potential to significantly increase farm income thereby increasing farm investments in more drought-resistant seeds, precision agriculture, and other climate-smart farm practices; (iii) requires fewer fertilizers; and (iv) creates incentives for adoption of water saving technologies and energy savings for pumping irrigation water to the large cotton fields. Specifically, the project's Component 1 will support applied research on CSA practices, drought-resilient seeds and seedlings, IPM, precision agriculture through better natural resource management and reduced use of fertilizers, and adoption of GAP through extension services. These public programs will promote both mitigation of and adaptation to climate change and will scale up SCA. The project's Component 2 will contribute to climate change mitigation by expanding orchards that prevent erosion, restore soil fertility, and increase afforestation. Expansion of intensive orchards and greenhouses will also encourage adoption of drip irrigation and other water-saving technologies, which will replace water-intensive flood irrigation practiced on traditional gardens and fields. Investments in cold storage and processing will reduce food losses and waste, and thus avoid the waste of inputs and water used for crop production. The project's Component 3 will promote crop diversification and further reduce food losses and waste through ALCs and strengthen the public capacity to manage phytosanitary risks, including a more strategic adoption of IPM and other GAP practices to meet the increasingly stringent food safety requirements in the importing countries. Under all components the infrastructure, including buildings, laboratories, offices, storage facilities etc., constructed and rehabilitated by the project, will be encouraged to utilize energy-efficient and climate-resilient materials and designs, and all activities related to human resource development will include topics on understanding climate change better and frameworks, tools and techniques to facilitate designing and implementing climate adaptation and mitigation approaches. By supporting measures that will help farmers mitigate and increase their adaptive capacity to climate change as well as resilience, the project will contribute to Uzbekistan's climate action plan, particularly for the agricultural sector, both towards its adaptation as well as mitigation goals as stated in its INDC.

**72. Nutrition:** Uzbekistan exhibits multiple forms of malnutrition. Some of its population suffers from insufficient calorific intake<sup>44</sup>, while for many the rates of overweight and obesity are increasing<sup>45</sup>. There is a higher prevalence of overweight than obesity, but females show slightly higher obesity rates overall<sup>46</sup>. Thirteen percent of children under five are considered overweight. Anemia is more prevalent among low-income families and in rural areas, as are vitamin A and iodine deficiencies. Uzbekistan is listed at the top of European nations with the highest mortality from consuming an unbalanced diet: between 1990 and 2006 it had more diet-related cardiovascular deaths than all of the 51 countries in

<sup>44</sup> UN FAO report. 2018. *Europe and Central Asia Regional Overview of Food Security and Nutrition* estimates the undernourishment rate in Uzbekistan in 2015-17 to be 7.4 percent, a decrease from 8.2 percent in 2010-2012. This rate was higher than in the neighboring countries of Central Asia, Caucasus, and Central and East Europe.

<sup>45</sup> Between 2005 and 2016, the rate of obesity in Uzbekistan increased from 9.9 percent to 15.3 percent (FAO, 2018).

<sup>46</sup> The Development Initiatives Poverty Research. 2017: 51 percent of adult females are overweight compared with 47 percent of males, while 19 percent of females are obese compared with 13 percent of males.





the World Health Organization's European Region. These deaths were attributable to diets high in sodium, low in whole-grains, and high in low-fiber white flour products. AMP with its focus on horticulture will improve nutritional outcomes in making available nutrient-rich, diverse and safe foods that are part of a high-quality diet. Nutrition awareness and education messages will be incorporated in the agriculture extension and advisory services that will be provided by the project. Better nutrition will contribute to improving the human capital of Uzbekistan's people.

**73. Gender.** Women have always been an integral part of Uzbekistan's labor force, especially in rural areas, but they face a range of barriers to their entrepreneurship and employment opportunities. Agriculture is the largest employer for the rural population, and although women have always been engaged in the agrarian economy, their participation in the sector tends to be mostly informal, unregulated, and part time. They are reportedly frequently disadvantaged and are very often underserved by suppliers and buyers in the value chains<sup>47</sup>. Human, financial, and social capital constraints hindering women's entrepreneurship and employment opportunities include a lack of technical skills, business knowledge, and financial literacy, as well as traditions and norms that cast women as primary caregivers and take their household labor for granted. Many rural women in Uzbekistan also have limited access to financial services. There is no public agricultural extension and advisory system, so there are no female extension officers. AMP will help establish one and encourage female employment. Lastly, despite a growing number of female entrepreneurial activities, as of 2015 only 14 percent of surveyed women were involved in self-employment<sup>48</sup>.

**74.** AMP will focus on closing two gender gaps (lack of technical and business skills and access to financial products and services) and on contributing to reducing gender stereotypes in the agriculture sector. The project will address gender disparities in the agriculture that hamper female productivity and entrepreneurship: (i) under Component 1, by facilitating women's access to improved agricultural inputs and services. This will be pursued both by increasing the share of female extension officers (15 percent by the end of the project), and by planning for delivery of extension services respecting women's schedules and other responsibilities so as to ensure maximum women participation (i.e. provision of lunch, short distance to the demo plot). Studies have shown that women farmers who have female extension officers have higher levels of awareness of and participation in extension services<sup>49</sup>; (ii) under Component 2, by targeting capacity building on business plan development to ensure that financial support applicants include women in their management and/or membership; and (iii) under Component 3, by taking into consideration how accessible agro-logistics centers are for women entrepreneurs. Prospective contractors will be responsible for suggesting in their bidding documents ways to make ALCs female-friendly (e.g. by providing for child care options, etc.). The project will contribute to reducing gender biases in agriculture by incorporating in extension and capacity building service messages that do not confine women to defined gender roles and social expectations. AMP will also include results indicators to monitor these actions.

**75. Citizen engagement will take place through multiple channels.** AMP will support citizen engagement through: (i) the use of feedback generated through intermediate and outcome results indicators that measure client satisfaction with services provided under the project; (ii) support the establishment of farm cooperatives and productive partnerships, which will serve as a platform for dialogue and citizens feedback; and (iii) the grievance redress mechanism to be established by the project. Specific citizen engagement mechanisms would include project recommendations to strengthen participation and better representation in decision-making processes as part of support to the formation of farmer cooperatives and productive partnerships; beneficiary perceptions surveys at mid-term and end of the project;

<sup>47</sup> WB background paper. 2019. *Enhancing the Livelihoods of Rural Women in Uzbekistan*. Washington, D.C.

<sup>48</sup> United Nations Development Programme Uzbekistan. 2017. *Women Entrepreneurs in Uzbekistan: Challenges and Opportunities*. Policy Brief. <https://www.uz.undp.org/content/uzbekistan/en/home/library/poverty/women-entrepreneurs-in-uzbekistan--challenges-and-opportunities.html>

<sup>49</sup> Lahai, B. et al. 2000. *The Gender of the Extension Agent and Farmers' Access to and Participation in Agricultural Extension in Nigeria*. The Journal of Agricultural Education and Extension, 6: 223-233; Lamontagne-Godwin, J. et al. 2019. *Identifying Gender-Responsive Approaches in Rural Advisory Services that Contribute to Institutionalization of Gender in Pakistan*. The Journal of Agricultural Education and Extension 25: 267-288; Diiro, G. et al. 2018. *Women's Empowerment in Agriculture: Evidence from Rural Maize Farmer Households in Western Kenya*. PLoS One.



use of consultations, local information desks, and grievance redress mechanisms to receive ongoing feedback from the population (beneficiaries, project-affected persons, general public, etc.) on the activities of the project. The proposed project activities that concern direct interventions at farmer and service provision levels will be designed and implemented on the basis of gender-representative consultations with direct beneficiaries and other stakeholders, and feedback incorporated to strengthen technical aspects and facilitate implementation. The supported farm cooperative and productive partnerships models are strongly oriented toward the needs and expectations of the intended beneficiaries as they are demand driven in nature and can serve as a platform for dialogue and citizens feedback. To strengthen civic engagement further, a systematic feedback mechanism will become part of the regular project monitoring activities, and GRM will be set up and made known to all stakeholders. These approaches will complement and enhance more traditional forms of monitoring. The project will incorporate beneficiary feedback indicators in the results framework to measure beneficiaries' satisfaction with the project supported services and institutional support to farm cooperatives and productive partnerships.

## **B. Fiduciary**

### **(i) Financial Management (FM)**

**76.** FM arrangements of UZAIFSA are considered acceptable for AMP's implementation, considering the experience of UZAIFSA in the implementation of other WB projects. The Fiduciary Risk for AMP is assessed as Moderate, considering the experience of UZAIFSA in the implementation of WB projects and the existing FM and internal controls arrangements. UZAIFSA will be responsible for implementation of fiduciary and accounting functions under the project.

**77.** Considering the project complexity, the FM arrangements of UZAIFSA will be strengthened by addressing several risk mitigation measures prior to the project effectiveness and during the project implementation (Annex 2). UZAIFSA will submit quarterly un-audited financial reports (IFRs) to WB. Audit of the project financial statements will be carried out for each financial year and at the project closing by an eligible audit firm, in accordance with TOR acceptable to WB. The project audit report will be publicly disclosed by UZAIFSA and WB on their websites. No entity audits are required.

**78.** The disbursement arrangements will follow a traditional disbursement mechanism for the project fund flows, including direct payments, replenishments of the designated account, and reimbursements. The minimum application size and designated account ceiling will be specified in the project disbursement letter. UZAIFSA will open a Designated Account in US\$ for each funding source in the financial institution acceptable to WB and a transit account in Uzbek Soms, if necessary. The accounts will be used for inflow of the project funds and payment of eligible expenditures. UZAIFSA will be in charge of planning the project disbursements, preparing withdrawal applications and making disbursements.

### **(ii) Procurement**

**79.** *Applicable procurement framework.* All procurement of goods, works, non-consulting and consulting services contracts will be conducted through the procedures as specified in WB's Procurement Regulations for IPF Recipients – Procurement in Investment Project Financing Goods, Works, Non-Consulting and Consulting Services, dated July 2016, revised November 2017 and August 2018. The procurement and contract management processes will be tracked through the Systematic Tracking of Exchange in Procurement system (STEP).

**80.** *Summary of Project Procurement Strategy for Development (PPSD) and Procurement Plan (PP).* The preparation of PPCSD was initiated at early stage of the project preparation with extensive support by WB procurement staff. The completed PPCSD informed PP's preparation for the first 18 months of project implementation. PP will be updated at least annually or as required during project implementation to reflect any substantial changes in procurement approaches and methods to meet actual project implementation needs, market fluctuations, and improvements in institutional capacity. The updated PPs along with the revised PPCSD (if required) will be subject to WB's prior review and no objection. The PPCSD, which was completed and approved before negotiations, includes a detailed Procurement Risk Analysis and actions

to mitigate the procurement risk that is being rated as Moderate. If followed properly, and the risks are mitigated, a lower risk rating might be upgraded during project implementation. The conclusions of PPSD reveal that for market analysis for procurement packages there is a competitive market both at local and international levels with sufficiently large number of contractors, manufacturers, and suppliers. The nature of a few civil work contracts is not particularly complex, and a good level of competition is anticipated among national and international companies depending on the packaging approach as discussed in PPSD.

**81. Procurement risk assessment.** WB is processing a procurement capacity assessment using the Procurement Risk Assessment and Management System (P-RAMS). Based on the completed procurement assessment and taking note of the existing capacity within UZAIFSA and the risks associated with procuring a large number of activities, the procurement risk is Moderate. More details are reflected in Annex 2.

**82. Use of national procurement procedures.** All contracts for goods, works and consultancy services following national market approach shall use the procedures set out in the Public Procurement Law (PPL) dated April 2018. The provisions of the PPL are consistent with the WB Procurement Regulations Section V – Para 5.4 National Procurement Procedures subject to a few conditions specified in PPSD. Further improvement of the 2018 legal and regulatory framework is being carried out GoU. The ongoing reform activities include the development of a new PPL and its implementation regulations as well as a full-fledged e-procurement system. WB provides support and advice to GOU on the development of this new framework and will update the assessment of the National Procurement Procedures that will be adopted for national competition procurement approach under the project. Moreover, the WB has recently undertaken a rapid market analysis of the Uzbekistan local construction industry with the main objective to develop an appropriate and updated knowledge and understanding of the national construction sector in Uzbekistan and the actual capacity of local contractors in participating and implementing construction contracts in the country under GoU, IFIs or private sector funded investment projects. The findings will allow agencies involved in procurement of civil works to develop procurement approaches that would encourage increased participation of national contractors in bidding processes. It will also help WB update the selection of procurement approaches and update methods' thresholds for civil works in Uzbekistan and consequently promote an increased use of the National Open Competition.

### C. Legal Operational Policies

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

### D. Environmental and Social

**83. Environmental and social impacts.** The overall Environmental risk of AMP is assessed as Moderate. The proposed project activities might generate a series of adverse *environmental risks and impacts* associated with the proposed small-scale and limited construction/rehabilitation of research institutes and other public institutions' buildings and laboratories, construction/rehabilitation of seed production facilities, including rehabilitation of their irrigation infrastructure (if any), along with investments in infrastructure for extension, including demonstration plots close to farm fields. Furthermore, the project credit support for horticulture values chain, to be implemented through PFIs, which would finance a series of various subprojects (replantation of old and establishment of new orchards; construction of greenhouses; facilities for fruits storage and handling; fruit processing; ALC construction; and other facilities), could also generate some environmental risks and impacts. These risks and impacts might include: increased environmental pollution with waste, noise, dust, air and water pollution, impacts on biodiversity; health hazards, and labor safety issues. In addition, in the case of introducing new seed varieties, risks and impacts related to biodiversity and ecosystem services





may arise. Most of specified risks and impacts are expected to be typical for small-scale construction/rehabilitation works, agriculture production and fruit processing activities, temporary by nature and site specific, and can be mitigated by applying good construction practices and relevant mitigation measures.

**84. *Social risks and impacts*** related to the physical footprint of the project are predictable and manageable via measures included in ESMF and the Resettlement Policy Framework (RPF). No significant risks related to labor influx, gender-based violence (GBV) or community health and safety are expected under the project, as most project workers will be recruited locally. The GBV risk is assessed as Moderate mostly due to the status of national GBV legislation, gender norms, and the rural location of most project activities. Yet, there are a number of contextual social risks in the agriculture sector, due to which the overall Social risk of the project is assessed as Substantial. These relate to the transparency and equity of land allocation and land tenure security, information constraints and overall ability of smaller farmers to partake in benefits of the project, risks of reduced access to land and productive assets due to land reallocation, and the capacity of state institutions and financing institutions to monitor labor and working conditions across rural enterprises. Environmental and social procedures that are put in place under the project consider these contextual risks, manage and monitor them as they relate to project-supported activities, and provide adequate attention to capacity-building activities of the involved implementing institutions. Mitigation related to the above have been included in the project ESMF – with site-specific Environmental and Social Impact Assessment (ESIA)/Environmental and Social Management Plans (ESMPs) to be developed during implementation; project Labor Management Procedure (LMP), and Stakeholder Engagement Plan (SEP). Risks of exclusion will be mitigated by the project's investments in: (i) strengthening agricultural research programs, which will generate technologies and farm management solutions suitable for small and larger farms; (ii) establishing an agricultural extension service, which will extend this knowledge and research results to all types of farms for adoption; and (iii) promoting the cooperation of small farmers – with dedicated project funds and activities towards their capacity-building – to ensure that they can also partake in benefits from the development of export value chains and access finance under the project. Application criteria for project credit will be developed so as to encourage selection of smaller farmers and agri-businesses with formal contracts with farmers and farm cooperatives to apply.

**85. *Relevancy of the WB Environmental and Social Standards (ESS)***. The WB ESF includes 10 ESSs. All of them, except ESS 7 and 8, are relevant to AMP. In terms of triggering WB Operational Policies (OP), while the OP 7.60 “Projects on Disputed Areas” does not apply and is not triggered by the project, the OP 7.50 “Projects on International Waterways” is triggered as the proposed investments may include among others small-scale rehabilitation of irrigation infrastructure in agricultural public institutions such as research and seed production centers that would reduce losses, and improve water distribution on the existing irrigation schemes. These investments are expected to be: relatively small-scale, and of a rehabilitation nature; they are not expected to lead to increased water abstraction or increased volume of discharged waste waters, and to extend any existing schemes. None of the project investments will cause significant environmental impacts on Amu-Darya or Sir – Daria Rivers that passes through Uzbekistan's territory and further flow into the Aral Sea, therefore triggering the OP 7.50. Due to the small anticipated impact, the ECA Regional Vice President granted the exception to the notification to the riparian countries.

**86. *Scope of the ESMF***. As it was not possible to identify the exact location of all activities and subprojects that would be financed, in accordance with the ESS1, the Borrower prepared an ESMF. The ESMF covers the following: (i) rules and procedures for environmental and social screening of project activities; (ii) guidance for conducting subprojects ESIA and/or ESMP/ESMP Checklist, which includes monitoring plans; (iii) mitigation measures for possible impacts of different proposed activities and subprojects; (iv) safety measures while applying pesticides and a template for Pest Management Plan (PMP); (v) implementation arrangements, supervision, monitoring, and reporting requirements for ESIA/ESMPs; (vii) overview of the capacity of UZAIFSA for environmental and social risk management and capacity building activities that would include other parties on mitigating potential environmental and social risks and conducting subproject-level ESIA. The ESMF also specifies the requirements and capacity building activities envisioned for PFIs, which would administer the

credit line component of the project. The public consultations on the draft ESMF took place on November 18, 2019, and the final ESMF, along with other ESF documents, were disclosed locally and in InfoShop on December 18, 2019.

**87. Scope of Resettlement Policy Framework (RPF).** The project does not envision land acquisition, restrictions on land use or involuntary resettlement. However, as the location of all project-supported activities is not known and could not be screened, the Borrower has prepared an RPF outlining the principles and steps to be followed in the event that impacts on private land, assets, or livelihoods are identified and are unavoidable. In such cases, UZAIFSA will lead the preparation and implementation of site-specific Resettlement Action Plans and ensure that they are fully implemented prior to beginning of any activities that may lead to impacts on privately-used land, assets, or livelihoods.

**88. Borrower's Environmental and Social Commitment Plan (ESCP).** The ESCP specifies main responsibilities and actions to be undertaken by MOA and UZAIFSA to ensure project compliance with WB ESSs, in particular: (a) conducting environmental and social screening for all project activities via ESMP/ESMP Checklist covering the above aspects; (b) application of the ESMF and RPF to all project activities, including the need to prepare site specific ESMPs and Resettlement Action Plans; (c) reporting on environmental and social performance of all activities on a biannual reports; (d) ensuring transparency in providing project environmental safeguards and ensuring all ESIA and/or ESMPs are disclosed and publicly consulted with all interested parties; (e) maintaining through the whole period of project implementation human capacity to ensure project activities ESIA and ESMP supervision and monitoring and providing adequate reporting to the implementing agency and to the WB; (f) preparation and adherence to the Environment, Social, Health and Safety Code of Conduct by works contractors; and (g) implementing and reporting on SEP, LMP, and GRM.

## V. GRIEVANCE REDRESS SERVICES

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

## VI. KEY RISKS

**89. The overall project risk** is assessed as Substantial, with the following key risks.

**90. Macroeconomic risk.** Macroeconomic risk is assessed as Substantial because macroeconomic and trade reforms could slow down, slowing agricultural reforms. This risk will be mitigated by policy dialogue on the approved reform-ambitious *Agricultural Strategy*, and a series of DPOs to continue economic reforms. There is also a risk that on-going policy reforms and market liberalization may negatively affect vulnerable rural population. Inflationary pressure may contribute to higher financing costs, which might affect project beneficiaries. Reforms to state-owned enterprises and banks may also result in market disruptions. The project's access to finance activities are expected to mitigate some potential impacts of disruption in the financial sector by providing needed liquidity, while the project investments in agricultural knowledge and agro-logistics would build a stronger base for private sector development. Furthermore, more profitable horticulture could absorb some workers exiting from reformed state-owned enterprises and provide new job opportunities for rural women and youth.



**91. Institutional capacity for implementation and sustainability.** Institutional capacity risk is assessed as Substantial because some agricultural public institutions are likely to resist reforms. This risk can be further exaggerated by the relatively low investment in capacity building compared to that in infrastructure. This risk will be mitigated by the WBG's support to implementation of the adopted *Agricultural Strategy*, where one out of nine strategic priorities is to reform public institutions for making them fitter to support market orientation of agriculture. The risk will also be mitigated by: (i) carrying out a dialogue with the oversight agencies such as MOF and MIFT to trigger necessary reforms; (ii) allocating a sufficient budget under AMP for attracting the global experts to guide reforms of the agricultural research institutes, extension services, and other MOA departments; and (iii) partnering with the EU and other donors to support reforms.

**92. Technical design.** Technical design risk is assessed as Substantial due to a large number of the planned project activities. This risk will be mitigated by the allocation of the adequate budget for project management at both central and regional levels to ensure a day-to-day support to implementation. It will be also be mitigated by the targeted WB support and collaboration with the donors to design and implement some of the proposed project activities.

**93. Environmental and social risks:**

- a. The overall environmental and social risk is assessed as Substantial, although environmental risk is rated as Moderate. Although AMP will provide a series of economic and social benefits, it may also generate some adverse environmental risks and impacts associated with the following: increased environmental pollution with waste, noise, dust, air and water pollution, impacts on biodiversity and ecosystem services; health hazards and labor safety issues. Most of them are expected to be typical for small and medium scale construction and rehabilitation works, agriculture production and fruit/vegetable processing activities. These risks and impacts would be mitigated through development of appropriate environmental and social instruments that will be incorporated into the bidding documents for construction works and Credit Line guidelines concerning activities of PFIs and credit beneficiaries, and through regular monitoring and reporting on ESF compliance.
- b. Although no incidents of forced or child labor have been reported in the horticulture sector in Uzbekistan, reputational risks are present given prior history of forced evictions, forced and child labor in the country. The project will not finance cotton farms or enterprises related to the cotton and textile value chain. Through its support to agricultural research institutes in Component 1, the project will finance applied research on seed development, which may include research on cotton seeds. The identified social risks need to be mitigated with sufficient awareness, capacity-building, and monitoring systems during project implementation. The project will utilize screening and monitoring mechanisms described in ESMF and LMP to mitigate any risk of child and forced labor among beneficiaries supported by the project. Sub-loan agreements will be immediately terminated, and full repayment of any sub-loans found to be associated with forced labor.



## VII. RESULTS FRAMEWORK AND MONITORING

### Results Framework

COUNTRY: Uzbekistan

Agriculture Modernization Project

#### Project Development Objectives(s)

The objectives of the project are to (i) enhance productivity-supporting agricultural services and (ii) promote market-led, high-value horticulture value chains.

#### Project Development Objective Indicators

Indicator Name	DLI	Baseline	End Target
<b>Enhanced productivity-supporting agricultural services</b>			
Farmers adopting improved agricultural technology (CRI, Number)		0.00	12,000.00
Farmers adopting improved agricultural technology - Female (CRI, Number)		0.00	1,500.00
Farmers adopting improved agricultural technology - male (CRI, Number)		0.00	10,500.00
Beneficiaries satisfied with the project supported services (Percentage)		0.00	75.00
<b>Increased market-led, high-value horticulture value chains</b>			
Agribusinesses that have established and maintained productive partnerships with farmers (Percentage)		0.00	80.00
Horticulture in total arable land area (Percentage)		20.00	30.00



### Intermediate Results Indicators by Components

Indicator Name	DLI	Baseline	End Target
<b>1. Enhancing productivity-supporting agricultural services</b>			
Increase in the share of applied research on local adoption and climate-smart agriculture (Percentage)		0.00	50.00
Increase in production volume of elite and super-elite seeds and seedlings (Percentage)		0.00	30.00
Area with updated agro-technology maps (Hectare(Ha))		0.00	10,000.00
Farmers reached with agricultural assets or services (CRI, Number)		0.00	15,000.00
Farmers reached with agricultural assets or services - Female (CRI, Number)		0.00	2,250.00
Women recruited as agricultural extension officers (Percentage)		0.00	15.00
Area under intensive orchards demonstration pilots (Hectare(Ha))		0.00	2,700.00
<b>2. Supporting investments in high-value horticulture value chains</b>			
Farmers participating in horticulture value chains through cooperatives and productive partnerships (Number)		0.00	3,000.00
Percent of women farmers participating in value chain projects (Number)		0.00	10.00
Productive partnerships established under the project (Number)		0.00	27.00
Beneficiaries, who report that participatory processes in farm cooperatives and productive partnerships are effective (Percentage)		0.00	75.00
Non-performing loans in total outstanding credit to the project beneficiaries (Percentage)		0.00	5.00
<b>3. Facilitating trade and marketing</b>			



Indicator Name	DLI	Baseline	End Target
Share of horticulture produce that flows through agro-logistical centers supported by the project (Percentage)		0.00	30.00
Beneficiaries reporting the use of market information system (Number)		0.00	10,000.00

**Monitoring & Evaluation Plan: PDO Indicators**

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Farmers adopting improved agricultural technology	<p>This indicator measures the number of farmers (of agricultural products) who have adopted an improved agricultural technology promoted by operations supported by the World Bank.</p> <p>NB: "Agriculture" or "Agricultural" includes: crops, livestock, capture fisheries, aquaculture, agroforestry, timber and non-timber forest products. Adoption refers to a change of practice or</p>	Annual	Surveys under the project	Project surveys	UZAIFSA



	<p>change in use of a technology that was introduced or promoted by the project.</p> <p>Technology includes a change in practices compared to currently used practices or technologies (seed preparation, planting time, feeding schedule, feeding ingredients, postharvest storage/processing, etc.). If the project introduces or promotes a technology package in which the benefit depends on the application of the entire package (e.g., a combination of inputs such as a new variety and advice on agronomic practices such as soil preparation, changes in seeding time, fertilizer schedule, plant protection, etc.), this counts as one technology.</p> <p>Farmers are people engaged in farming of agricultural products or members of an agriculture related business (disaggregated by men and</p>				
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	women) targeted by the project.				
Farmers adopting improved agricultural technology - Female					
Farmers adopting improved agricultural technology - male					
Beneficiaries satisfied with the project supported services	Services include extension, finance, logistics and market information, and beneficiaries are farmers and agribusinesses targeted by Component 2 of the project.	Annual	Surveys under the project	Project surveys	UZAIFSA
Agribusinesses that have established and maintained productive partnerships with farmers	The share of agribusinesses, who received credit from the project to establish formal contracts with farmers and farm cooperatives, and maintained and invested in these partnerships by the end of the project	Annual	Project records, surveys	Surveys of the productive partnerships	UZAIFSA
Horticulture in total arable land area	Horticulture land area in 2018 was 791,000 ha. It included 87,000 ha of potatoes; 219,000 ha of vegetables; 52,600 ha of melons; 319,200 ha of orchards; and 113,300 ha of vine grapes. Total arable land was 3,828,500 ha.	Annual	Official statistics	Official statistics	State Statistics Committee of Uzbekistan





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

Indicator Name	Definition/Description	Frequency	Datasource	Methodology for Data Collection	Responsibility for Data Collection
Increase in the share of applied research on local adoption and climate-smart agriculture	Share of research projects of the participating research institutes that focus on solutions for local adoption of agricultural technologies and climate-smart agriculture out of total number of research projects.	Annual			
Increase in production volume of elite and super-elite seeds and seedlings	Elite and super elite seeds are being produced by the Seed Production Center under the MOA. Seedlings are produced by various research institutes participating in the project.	Annual	Project progress reports	Survey of the participating seed institutions	UZAIFSA
Area with updated agro-technology maps	Land area for which new or updated agro-technological maps are prepared based on soil tests supported by the project.	Annual	Project survey	Project survey	UZAIFSA
Farmers reached with agricultural assets or services	This indicator measures the number of farmers who were provided with agricultural assets or services as a result of World	Annual	Project M&E reports	Reports from departments, agencies, and PFIs providing assets and services to the project	UZAIFSA



	<p>Bank project support. "Agriculture" or "Agricultural" includes: crops, livestock, capture fisheries, aquaculture, agroforestry, timber, and non-timber forest products. Assets include property, biological assets, and farm and processing equipment. Biological assets may include animal agriculture breeds (e.g., livestock, fisheries) and genetic material of livestock, crops, trees, and shrubs (including fiber and fuel crops). Services include research, extension, training, education, ICTs, inputs (e.g., fertilizers, pesticides, labor), production-related services (e.g., soil testing, animal health/veterinary services), phyto-sanitary and food safety services, agricultural marketing support services (e.g., price monitoring, export promotion), access to farm and post-harvest machinery and storage facilities, employment,</p>			beneficiaries	
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	irrigation and drainage, and finance. Farmers are people engaged in agricultural activities or members of an agriculture-related business (disaggregated by men and women) targeted by the project.				
Farmers reached with agricultural assets or services - Female					
Women recruited as agricultural extension officers	Women recruited by the extension offices supported by the project	Annual	Project reporting	Reporting by the extension service centers	UZAIFSA
Area under intensive orchards demonstration pilots	Land area of demonstration pilots for intensive orchards supported by the project	Annual	Project M&E System	Survey	UZAIFSA
Farmers participating in horticulture value chains through cooperatives and productive partnerships	Farmers are the members of the farm cooperatives and the productive partnerships established under the project	Annual	Survey of farm cooperatives and productive partnerships	Project survey	UZAIFSA
Percent of women farmers participating in value chain projects					
Productive partnerships established under the project	Productive partnerships is the partnership between agro-enterprise, borrowing under the credit line window, and farmers or farm cooperatives, with	Annual	Project survey	Survey under the project	UZAIFSA



	formal contractual relationships.				
Beneficiaries, who report that participatory processes in farm cooperatives and productive partnerships are effective	Beneficiaries include farmers, who are the members of farm cooperatives and productive partnerships with agri-enterprises.	Annual	Survey	Survey	UZAIFSA
Non-performing loans in total outstanding credit to the project beneficiaries	Non-performing loan means any payments overdue for 90 days or more – both interest and principal.  End target should be interpreted as "not more than 5%"	Semi-annual	Reports of participating financial institutions	Data of participating financial institutions	Participating financial institutions and UZAIFSA
Share of horticulture produce that flows through agro-logistical centers supported by the project	Horticulture produce is calculated as a volume of horticulture production in regions where agro-logistical centers are established.	Annual	Survey	Survey of agro-logistical centers	UZAIFSA
Beneficiaries reporting the use of market information system		Annual	Survey	Survey	UZAIFSA



## ANNEX 1: Sector Analysis and Project Description

### COUNTRY: Uzbekistan Agriculture Modernization Project

#### A. Sector Analysis

**1. Agriculture is the largest economic sector in Uzbekistan.** In 2018, it generated 34 percent of GDP, employed 27 percent of labor force, and constituted 25 percent of the country's merchandized export. Compared to 2010, the size of agriculture and export shares has remained about the same, but it decreased in terms of employment. Crops account for slightly more than half of the GAO. In 2018, they generated 53 percent of the GAO, while the remaining 47 percent was generated by livestock. The ratio of crop to livestock production in GAO has remained stable over the last decade. Yet, the share of cotton and wheat in GAO dropped from 16 percent in 2015 to 10 percent in 2018. Importance of fruits, vegetables, and meat increased over time.

**2. Most farmland has been allocated for production of cotton and wheat.** In 2015, these two commodities were produced on 74 percent of total arable land (Table A1.1) only generating 16 percent of GAO. In 2018, the share of these commodities in arable land use dropped to 69 percent. The last years saw the decrease in areas devoted to production of cotton and wheat and increase in the areas for production of horticulture products. This trend is expected to accelerate in the future based on the targets set in the *Agricultural Strategy*.

**Table A1.1: Agricultural land use in Uzbekistan, ha, 2015-2018**

	2015	2017	2018
Cotton	1,298,100	1,201,200	1,108,200
Wheat	1,445,900	1,411,100	1,386,300
Corn and other grains	271,600	255,600	314,578
Potatoes	80,600	78,800	86,800
Vegetables	194,000	189,700	219,000
Melons	52,000	52,300	52,600
Wine grapes	128,300	114,500	113,300
Orchards	266,400	271,600	319,200
<b>TOTAL</b>	<b>3,736,900</b>	<b>3,574,800</b>	<b>3,599,978</b>

Source: State Statistics Committee of Uzbekistan (2018).

**3. Although about 85 percent of arable land is being cultivated by large farms, they make a relatively small contribution to GAO due to low per hectare value.** In 2018, there were 75,000 large farms, with an average size of 100 ha, allocating most (more than 80 percent) of their land to production of cotton and wheat. These farms generated only 30 percent of GAO. This proportion has not changed during the last decade – large farms have always generated such a small share of GAO despite the large land allocation and public expenditures devoted to stimulating production of cotton and wheat. The main reason is that per hectare value from cotton and wheat is much smaller than that from the majority of horticulture products. Although they are produced on 10 percent of arable land area by 4.9 million small *dehkan* farms and household plots, horticulture products accounted for 50 percent of crop production and 70 percent of GAO in 2018.

**4. Larger farms have underperformed in terms of generating GAO also due to the state order system for producing cotton and wheat.** That system has led to the reduction of the production value by keeping the farm-gate prices artificially low, forcing production on unsuitable soils, and interfering into farm management decisions. The WB estimates that



during 2016-2018 the loss to farmers from the low state farm-gate prices was 2.2 percent of GDP, which in some years was larger than the amount of budget support provided to farms. Most of the budget support was provided in the form of free irrigation water, costing the public 1.3 percent of GDP annually. Direct subsidies to farmers in the form of subsidized credit and the direct payments for producing cotton on low fertile soils were 0.2 percent of GDP. The budget for other key agricultural services such as agricultural R&D, extension, and market infrastructure was negligible.

**5. The GoU has recognized weaknesses of past agricultural policies and started the reform with liberalization of exchange rate in 2017.** This reform was followed by many other macroeconomic and trade reforms to create more space for private sector investments and facilitate export<sup>50</sup>. In agriculture, the reforms started with the removal of price and market distortions for horticulture export. Uzbekistan has a strong comparative advantage in horticulture<sup>51</sup>, that if realized can contribute to higher economic growth and can generate larger export revenue. Horticulture has also the potential to create many of better-paid, more productive, inclusive jobs. Production of vegetables requires two to three times more labor input than production of cotton and grains, while production of fruits requires five to ten times more labor input. In addition, labor productivity in horticulture is much higher than that in cotton and wheat and horticulture can create more permanent jobs of higher productivity and desirability. Furthermore, labor requirement in horticulture is spread throughout the year, especially in greenhouses and post-harvest processing and marketing activities. Since 2017, the WB-supported HDP investments (Table A1.2) helped create about 16,000 jobs along horticulture value chain, where women comprise 31 percent of full-time employees within agro-firms and horticulture farms.

**6. Between 2017 and 2019 the GoU eliminated the majority of export restrictions.** They included the following: (i) abolishment of export monopoly of Uzagroexport; (ii) abolishment of mandatory sale of 25 percent hard currency earning, and permission to keep 100 percent value of earned hard currency in exporters' account; (iii) reduction in time to receive certificate and register the contract at the customs for horticulture exporters; (iv) elimination of railroad monopoly for export; (v) establishment of "green corridors" at border crossings; (vi) elimination of minimum export prices; and (vii) removal of full prepayment requirement for export contracts outside of Uzagroexport<sup>52</sup>.

**7. The GoU has also been focusing on improving access to credit for farmers and agribusinesses to invest in horticulture value chains, including in adoption of improved technologies.** Some of the investments were financed by the WB-supported HDP, which have focused on supporting modern greenhouses, followed by cold storage, and processing (Table A1.2). Investments in intensive orchards and handling/packaging have remained limited, reflecting large constraints and high risks faced by farmers and agribusinesses in managing these assets and the need for the proposed project to address them to increase farmer participation in the investment and growth opportunities offered by the recent economic liberalization. The share of 'intensive' orchards is estimated at 18 percent of total orchard area in Uzbekistan (Table A1.3). By 2021, the GoU plans to double the area under intensive orchards and build a network of ALCs to support agglomeration and value addition through handling, packaging, and distribution.

**8. Reforms, albeit at the slower pace, have also started in cotton and wheat subsectors.** The priority action there has been to promote diversification by converting some cotton and wheat areas into horticulture production. During 2015-2019, more than 280,000 ha of land was shifted away from cotton production and 100,000 ha away from wheat production, with the largest reduction to have taken place in 2018-2019. More cotton and wheat land are planned for future conversion to production of horticulture crops. Yet, a larger shift is conditioned by improvement in cotton and wheat productivity (yields), which in turn depends on elimination of the state order system. Since 2015, the GoU has

<sup>50</sup> WB's Program Document. 2019. *Sustaining Market Reforms in Uzbekistan DPO* for the description of the recent economic reforms.

<sup>51</sup> WB report. 2019. *China/Russia 2030 – Opportunities for Central Asia's Agriculture* and the WBG report. 2018. *CPSD*.

<sup>52</sup> Policy dialogue for these reforms has been underpinned by the MFD-inspired WBG's analytical work (e.g., CPSD) and investment projects (e.g., WB-financed HDP). Elimination of minimum export prices and removal of full prepayment requirement for export contracts outside of Uzagroexport were among the prior actions in the WB's second DPO approved in May 2019.



significantly increased the state procurement prices of both cotton and wheat and in 2019 they have largely reached the market level. The GoU, in the adopted *Agricultural Strategy*, indicated readiness to eliminate the state production targets in 2021, which should also help fully eliminate the use of forced labor in cotton harvesting. Agricultural growth in 2017 and 2018 was only 1.2 percent and 0.3 percent, respectively. In 2019, it is projected to increase to 3 percent as the reforms begin showing results.

**Table A1.2: Disbursement of HDP loans by type of investments, September 2019**

	Number of sub-loans	Amount, US\$ million	Share of loan amount, %
Greenhouses	395	321	60.7
Cold storage	226	46	15.8
Processing	74	57	10.7
Intensive orchards	55	46	8.8
Packaging lines	31	18	3.4
Others	19	4	0.8
<b>TOTAL</b>	<b>800</b>	<b>492</b>	<b>100</b>

Source: HDP M&E reports (2019).

**Table A1.3: Developments of areas under orchards, 2018**

	Total area, ha	Share in total area, %	Intensive orchards, ha	Share of intensive orchards, %
Apple	111,158	39.8	21,952	19.7
Apricot	39,938	14.3	0	0
Peach	35,321	12.6	2,031	5.8
Plum	23,087	8.3	820	3.6
Sweet cherry	21,315	7.6	1,578	7.4
Pear	11,470	4.2	0	0
Nuts	7,123	2.5	52	0.7
Cherry	6,123	2.2	120	1.9
Quince	4,681	1.7	0	0
Pomegranate	4,754	1.7	0	0
Persimmon	2,889	1.0	0	0
Others	11,220	4.1	0	0
<b>TOTAL</b>	<b>144,900</b>	<b>100.0</b>	<b>26,553</b>	<b>18.1</b>

Source: WB staff estimates.

**9. While initial agricultural reforms focused more on production, product price liberalization, and trade-related enabling environment measures, second generation reforms need to focus on factor market efficiency and public institutions, which continue to inhibit growth in agriculture in general and horticulture in particular.** Land tenure insecurity and lack of a formal land rental market remain significant challenges in the medium to long-term. In addition, the lack of a functioning financial sector and the resultant narrow availability of tailored financial products with collateral requirements deemed suitable for farmers and exporters are arguably among the most significant short-term factors limiting the generation of quick and inclusive wins from the agriculture sector. Human capital in agriculture and technology generation and adoption also remain low, due to significant underinvestment in agricultural R&D that is proven globally to drive agricultural growth. Uzbekistan's public investments in agricultural research and extension in 2016-2018 averaged a dismal 0.02 percent of agricultural value added, compared to the average of 1.0 percent in middle-income countries and 2.5 percent in high income countries<sup>53</sup>. In fact, the most agricultural public goods in Uzbekistan

<sup>53</sup> WB report. 2019. *Agriculture Public Expenditure Review for Uzbekistan*.





remain to be severely underfinanced.

**10. Uzbekistan can materialize its potential to increase its agricultural, and specifically horticultural, production by addressing constraints related to:** (i) availability and quality of agricultural services for raising on-farm productivity, resilience to climate change, and output quality; (ii) better value chain organization and access to suitable financial products; and (iii) facilitation of trade through better agri-logistics, enhanced plant protection and phytosanitary capacity, and access to market information. The current state of these constraints is as follows:

- a. *Services for increasing on-farm productivity, climate resilience, and output quality:* Most horticulture producers do not have access to a variety of agricultural services including: seeds/seedlings that are tailored to specific agroecological zones (most of the seeds are imported) and are resilient to climate change; support services on water saving, soil fertility management, IPM, organic farming, and other GAP; and on intensive orchards' management, harvest and post-harvest handling practices, and others. Agricultural extension and advisory services do not exist<sup>54</sup>, and digital-based farm services are lagging. This keeps agricultural productivity low. The private sector has not stepped in to cover this gap. Agribusinesses do not have direct contractual relations with farms, but work mainly through aggregators, who in turn have no commercial interest to invest in provision of technical services to farmers. This creates market failures of low productivity and quality, and inconsistency of production. Furthermore, most land areas that are currently being converted from cotton to horticulture production are of poor soil quality, requiring significant investments to restore fertility; financial resources and technical assistance are largely missing also for this purpose.
- b. *Value chain organization:* Weak cooperation among farmers and lack of value-chain linkages between farms (and farm cooperatives) and exporters undermine export potential to new markets. Export-oriented firms seek to vertically integrate to mitigate risks of low quality, fragmented production, and unreliable supply. But even they mostly source horticulture products from aggregators, who buy from small farms and firms, and in most cases not on the basis of written contracts but only on the basis of verbal agreements resting on trust due to repeated business. Cooperation and productive partnerships are not yet in place, although the GoU has initiated pilots on horticulture farm cooperatives in several regions<sup>55</sup>. Business associations that serve an essential function in exporting countries creating economies of scale through information sharing and cooperation, are absent in Uzbekistan.
- c. *Tailored/suitable agricultural finance:* The required long-term financing for horticulture investments, for example, for cold storage and greenhouses up to 7 years and for orchards up to 10 years, exists only within the credit lines provided by IFIs. Despite the provision of IFI credit, the demand for these lending products continues to outstrip supply, and financial sector bottlenecks prevent the market from addressing these gaps<sup>56</sup>. Collateral requirements are not suited for farmers' capacity. The longest-term lending product available to most farmers and agribusinesses from local banks is a 1-2 years loan to finance working capital. Long-term products in the banking system are still very limited relative to the investment needs in the agriculture sector (that requires products with a 5 to 10-year term). Intermediation is further compounded by low deposit rates and low, mostly very short-term (up to 2 years) uptake from the public in using the

<sup>54</sup> Some extension services are being provided by the GoU, focusing on directing production of cotton and wheat. The Council of Farmers, Dehkans and Household Plots has recently started providing extension services linked to the delivery of equipment and greenhouses. In parallel, many several development partners in their projects arrange training for farmers and public agencies. Despite the range of services and training courses, farmers' needs are still unmet, and there is particularly high demand for extension services among farmers who produce fruits and vegetables.

<sup>55</sup> Resolution of the President of Uzbekistan No. PP-4239 "About Measures for Development of Farm Cooperation in Horticulture Sector" dated March 14, 2019 created a legal environment for piloting farm cooperatives in Jizzakh, Fergana, Samarkand, and Tashkent regions.

<sup>56</sup> The WB-financed HDP project along with its Additional Financing made available US\$650 million of credit for horticulture investments. Yet, the unmet demand underpinned for ready-to-go business plans is estimated by MOA at more than US\$1.5 billion.



banking system – an issue that could take years to address as part of a wider financial reform strategy.

- d. *Agro-logistics*: There is a lack of wholesale markets, logistical centers, associated test laboratories, and streamlined administrative trade procedures to ensure producers can export perishable products without delay at customs/border and that they meet international quality standards and requirements. This is hampering more rapid increases in export volume and value, and expansion into new markets. Most administrative procedures are paper-based, while digitization of trade paperwork is lagging. Lastly, market and trade information are not readily available to market participants.
- e. *Improving phytosanitary control and certification*: One of the key constraints to exporting to diversified markets is weak infrastructure and capacities for phytosanitary controls. Because of a lack of hard and soft infrastructure and weak institutional capacities, very few exporters comply fully with the phytosanitary requirements of importing countries and lack the necessary certification. Currently, the phytosanitary system of Uzbekistan cannot provide adequate information about pest status in the country. Phytosanitary Risk Analysis is not carried out regularly. Therefore, the information on the distribution of quarantine pests in the country is outdated. There is lack of understanding of phytosanitary surveillance importance, trained personal, diagnostic capabilities, and infrastructure and methodologies for pest identification. To facilitate the export and to ensure the safe conditions for trade there is the need to be aware of the current situation regarding the pest occurrence and to be capable to identify pests.

## B. Project Description

**11. Component 1: Enhancing Productivity-Supporting Agricultural Services (US\$212.8 million).** The objective of this component is to enhance the knowledge and human capital base to enable accelerated productive transformation of Uzbekistan agriculture to make it more productive, climate-resilient, diversified, and market-led. Overall, the component seeks to strengthen anchor public institutions through their institutional modernization and upgrading of functional capacities to make more relevant and impactful contributions and increasingly leverage the private sector. It also aims to establish systems and modalities to provide more relevant support to farmers across a range of technical needs.

**12. Sub-component 1.1 Applied agricultural research and development (US\$86.7 million).** The objective of this sub-component is to enhance the capacity of the national R&D system to develop new technologies as well as to adapt existing, on-the-shelf technologies to local social and environmental conditions and to changing circumstances over time. Investments under this sub-component will be aligned with the strategic priorities set in the *Agricultural Strategy*. They are planned in the context of new steps being taken by the GoU to revive public research institutions, including the provision of long-term budgetary financing. Expected focus areas for support include applied research on agro-ecological zone-specific CSA technologies, irrigation technologies that reduce energy use, development and scale up of SCA technologies, conservation and utilization of germplasm<sup>57</sup>, increase in the supply of improved agricultural technologies, and facilitation of technology transfer. Unique genetic materials of Uzbekistan will be preserved for future generations, through modernization of the National Gene Bank, and for technology generation suitable for local agroecology. Improvement of agricultural technologies will pay attention to development of drought-resistant and climate-resilient crop varieties and climate-smart farming practices.

**13.** Institutions being supported under this component will undertake a comprehensive functional and human capacity assessment to be financed under this project. Subsequently, each will prepare a strategic action plan, which will detail specific goals and target of relevance, actions proposed and a monitoring and accountability framework. The strategic action plan will describe pragmatic measures to increasingly involve the private sector – which is currently weak or not present in these areas – as appropriate. Finally, the action plan will be accompanied by a human resource development plan, which will identify skills gaps and other learning needs, and steps to be taken to help the institutions

<sup>57</sup> In accordance to NCD targets for adaptation.



re-orient themselves to their revised goals and targets and institutional strategies to achieve them. These assessments and plans will underpin the support to be provided under this project to these institutions.

**14.** Main elements of support under this sub-component will be the financing for: (i) human resource development<sup>58</sup>, including training on climate mitigation and adaptation approaches, workshops, seminars, conferences and study tours; (ii) construction (of new), rehabilitation/renovation (of existing), and refurbishment (of new and existing) infrastructure<sup>59</sup> for administration and research, including laboratories, offices, storage facilities, green and glass houses, lath houses, gene bank, and horticulture innovations center; (iii) upgrade of irrigation infrastructure/facilities on research farms that would reduce energy use; (iv) establishment and/or upgrading of information and communications technology (ICT) infrastructure; (v) establishment and/or strengthening of demonstration plots and demonstration orchards; (vi) procurement of laboratory equipment, reagents, field equipment, farm machineries, and vehicles that would be energy efficient; and (vii) procurement (acquisition) of germplasm.

**15.** AMP would support the following institutions and investments:

- a. ***Mirzayev Research Institute of Horticulture, Viniculture, and Winemaking:*** This is the largest agricultural research institute under MOA and one of the most important for Uzbekistan's horticulture. It has been performing much below the sector's needs, especially in supplying high-quality seedlings for fruits and grapes. Main tasks of the institute include: (i) selection and breeding of different varieties of fruits and grapes, and preparing promising varieties for registration; (ii) production of seedlings of improved and registered varieties; (iii) applied research in IPM and other climate-smart agricultural practices; (iv) development of organic production practices; and (v) identification, selection, and testing of technologies for storage, processing, and standardization. In addition to the headquarters office (HQ) in close proximity to Tashkent, the institute includes twelve (12) regional research stations, two experimental wineries, and the country's school of gardeners. AMP plans investments to renew/upgrade the institute's HQ, regional research stations, experimental wineries, and the republic's school of gardeners, including through: (i) construction (of new), rehabilitation/renovation (of existing), and refurbishment (of both new and existing) office and laboratory buildings; (ii) strengthening laboratories for breeding and genetic testing, agrochemical (soil, chemical, biological) analyses, micro viniculture and viticulture testing; (iii) equipment for determining pesticide residue, nitrates, and other chemicals; (iv) in-vitro laboratories and greenhouses acclimatization; (v) fumigation chambers; (vi) agricultural machinery and equipment for research fields and demo plots/farm schools; (vii) establishment of nurseries for seedling production; and (viii) office and ICT equipment.
- b. ***Research Institute of Vegetables, Melons, and Potatoes:*** Main tasks of the institute include: (i) development of high-yielding, heat-resistant and transportable varieties and hybrids of vegetable, melons, and potatoes with good taste, commercial, processing qualities and resistant to diseases and unfavorable ecological conditions; (ii) production of primary varieties; (iii) testing and development of water and resource-saving vegetable-melon-potato cultivation technologies; and (iv) research on protecting from pests and diseases in open and protected grounds, and improvement of greenhouse vegetables production technology. In addition to the HQ in Tashkent, the institute has five (5) research stations in Andijan, Kashkadarya, Khorezm, Samarkand, and Surkhandarya regions and seven (7) scientific laboratories. AMP would finance: (i) construction of new and rehabilitation/renovation of existing office and laboratory buildings; (ii) phytotron

<sup>58</sup> All activities related to human resource development and capacity building will include topics on understanding climate change better and frameworks, tools and techniques to facilitate designing and implementing climate adaptation and mitigation approaches.

<sup>59</sup> Investments in climate proof and energy efficient infrastructure will be pursued.



equipment; and (iii) office, ICT, and other supporting equipment<sup>60</sup>.

- c. **Research Institute of Plant Science:** Main tasks of the institute include: (i) development of high-yielding and heat-resistant varieties of beans and pulses; (ii) production of primary varieties; (iii) testing and development of water and resource-saving cultivation technologies; and (iv) research on protecting crops from pests and diseases. This institute has two (2) regional research stations and it hosts the National Gene Bank for all seed varieties, which requires significant modernization. AMP would invest in the Gene Bank, financing: (i) construction of new and rehabilitation/renovation of existing office and laboratory facilities; (ii) storage and cooling/freezing equipment; (iii) laboratory and seed treatment specialized equipment and instruments; and (iv) office and ICT equipment, including for the establishment of digital gene bank database; and financing other fixed assets of this institute, focusing on mung bean seed varieties and financing machinery and equipment for seed cleaning, sorting and calibration.
- d. **Research Institute of Rice:** Main tasks of the institute include: (i) development of high-yielding, heat-and flood-resistant varieties of rice and soybeans; (ii) production of primary varieties; (iii) testing and development of water and resource-saving cultivation technologies; and (iv) research on protecting crops from pests and diseases. AMP would finance: (i) construction of new seed warehouse and rehabilitation/renovation of existing office, warehouse, laboratory and other buildings; (ii) laboratories for seed testing; (iii) turnkey modernization of the plant for preparation of rice seeds; (iv) machinery and equipment for research fields and demo plots; and (v) rehabilitation of the existing irrigation system and roads on or for seed production fields.
- e. **Research Experimental Station of Corn Selection and Seed Breeding:** Main tasks of the institute include: (i) development of high-yielding and heat-tolerant varieties of maize; (ii) production of primary varieties; and (iii) testing and development of water and resource-saving cultivation technologies. AMP would finance: (i) construction of new and renovation of existing training and laboratory buildings; (ii) laboratory for seed testing; (iii) machinery and equipment for research fields and demo plots; and (iv) office and ICT equipment.
- f. **Research Institute of Grain and Leguminous:** Main tasks of the institute include: (i) development of high-yielding and heat-resistant varieties of wheat and other grains; and (ii) testing and development of water and resource-saving cultivation technologies for grain production. AMP would finance: (i) construction of new and renovation of existing seed storage and laboratory buildings; (ii) laboratory for agrochemical testing; (iii) agricultural machinery and equipment for research fields and demo plots; (iv) seed processing and other equipment; and (v) office and ICT equipment.
- g. **Research Institute for Cotton Breeding, Seed Production, and Agricultural Technologies:** Main tasks of the institute include: (i) development of high-yielding, heat and flood-resistant, and high-quality fiber varieties; (ii) production of primary varieties; (iii) testing and development of water and resource-saving cultivation technologies; (iv) research on protecting cotton from pests and diseases; and (v) research on the use of herbicides, defoliants, and stimulants for cotton. In addition to HQ, the institute has twelve (12) regional research stations. AMP would finance: (i) construction of new and rehabilitation/renovation of existing office, greenhouse, and laboratory buildings; (ii) laboratories for molecular genetics, phytopathological and entomological assessment of the degree of risk of breeding material, applied genetics and immunity, and preparation of original and pre-elite seeds; and (iii) office and ICT equipment.
- h. **Agency for Viticulture and Wine Development:** Main tasks of the Agency, under MOA, are to support

<sup>60</sup> This AMP's investment will complement the HDP-investment in the amount of US\$2.5 million in equipping the institute's R&D facilities with analytical laboratories, greenhouses, and seed storage and cleaning equipment.



development of viniculture and winemaking through policies, programs, research, and extension. AMP would finance: (i) establishment of an experimental plantation of grapes for demonstration of various grapes and testing farm practices; (ii) establishment of a nursery for production of seedlings and other planting materials; and (iii) construction of new and rehabilitation/renovation of existing office, greenhouse, and laboratory buildings for preserving wine-grape genetic materials.

- i. **Center for Agricultural Standardization:** Main task of the Center, under MOA, is to strengthen certification and standardization for agriculture and promote the adoption of GAP and organic farming. AMP would finance activities and investments to: (i) enhance capability and infrastructure to develop and promote the national GAP and organic farmers and support farmers and agribusinesses willing to adopt Global GAP; and (ii) develop a modern system of national reference laboratories to create an independent referral or diagnostic facility that supports the public and private laboratories with harmonized, suitable methods, confirmation and forensic capacity, quality control and capacity building at national and sub-national levels to allow testing that meets international standards.
- j. **Education and Exhibition Center for Horticulture Value Chain Development:** Uzbekistan is famous for its horticulture products. To demonstrate its potential and educate population and visitors of the country about recent horticulture products, technologies, and scientific achievements, MOA plans to establish an innovative education and exhibition center for horticulture development in Tashkent city. AMP would support the establishment and management of this center.

**16. Sub-component 1.2: Seed and seedling production (US\$37.0 million).** The objective of this sub-component is to rebuild local seed and seedling production systems. Specifically, it will seek to: (i) increase the supply, in sufficient quantity and acceptable quality, of elite and super-elite seeds, seedlings, and other planting materials to private sector multipliers for commercial seed production and sales to farmers; and (ii) develop and update guidelines related to seed production, testing and registration, and certification for public and private sector seed/seedling nurseries. Increasing the supply of super-elite and elite seeds/seedlings that are demanded by beneficiaries will aim for drought and pest-resiliency and alignment with different agro-ecological zones.

**17.** The sub-component will support: (i) human resource development<sup>61</sup>; (ii) construction (of new), rehabilitation/renovation (of existing), and refurbishment (of new and existing) infrastructure<sup>62</sup> such as office, laboratory etc. buildings; (iii) upgrade of irrigation infrastructure/facilities on state seed farms; (iv) establishment and/or upgrading of ICT infrastructure; (v) procurement of laboratory equipment, reagents, field equipment, farm machineries and vehicles that would be energy efficient; and (v) support of accreditation of laboratories, including to the International Seed Quality Control Agency's requirements. The following main activities would be supported by participating institution:

- a. **Center for Variety Testing of Crops:** The Center, under MOA, is responsible for testing varieties developed by research institutes and register those meeting the requirements in the National Seed Registry. The center is also tasked with testing and certifying imported crop varieties for their adaptation and use in Uzbekistan. In addition to HQ in Tashkent, the center has twelve (12) testing stations and forty-two (42) testing plots located on various soils and climate zones. The center also has chemical-engineering and cotton testing laboratories. AMP aims to improve the quality and speed of testing and registration by financing: (i) construction of new and renovation of existing office and laboratory buildings and greenhouses; (ii) equipment and materials for chemical-engineering and cotton laboratories, and laboratory accreditation;

<sup>61</sup> All activities related to human resource development and capacity building will include topics on understanding climate change better and frameworks, tools and techniques to facilitate designing and implementing climate adaptation and mitigation approaches.

<sup>62</sup> Investments in climate proof and energy efficient infrastructure will be pursued.





(iii) machinery and equipment for varieties' testing; and (iv) office/ICT equipment.

- b. **Center for Development of Seed Production:** The Center, under MOA, is responsible for production of elite and super-elite seeds for multiplication. The center has twelve (12) regional production stations, in addition to HQ in Tashkent. Produced elite and super elite seeds are being multiplied by trained and certified farms and other private sector, including by agro-clusters. AMP will improve the quality and quantity of produced elite and super-elite seeds by financing: (i) construction of new and renovation of existing office, laboratories, and seed storage buildings; (ii) equipment and materials for seed quality testing laboratories and seed processing/cleaning; (iii) agricultural machinery and equipment; and (iv) office and ICT equipment.
- c. **Agricultural Inspection:** The Center for Service Delivery in Agro-industrial Complex, Inspection for Control of the Agro-Industrial Complex under the Cabinet of Ministers, is responsible for seed quality assurance. AMP would: (i) upgrade laboratories and equipment needed for seed quality assurance, (ii) renovate existing offices and laboratory facilities; and (iii) invest in ICT infrastructure.
- d. **Agency for Development of Horticulture and Greenhouses:** The Agency, under MOA, is responsible for development of orchards and greenhouses. AMP will help establish a quality assurance system for certification of enterprises/nurseries producing and selling seedlings and other planting materials by financing consultancy services, materials, equipment, and tools necessary for piloting certification during the project implementation.

**18. Sub-component 1.3 Natural resource management (US\$14.1 million).** The objective of this sub-component is to increase farmers' awareness of their soils, water situation and biohazards, and succeed in replacing blanket recommendations with test-based recommendations and climate-smart agriculture. This will entail generation of agro-technological and other maps, including by using digital and remote-sensing technologies, a broader menu of options for farmers as a part of the development of GAP and climate-smart mechanization tailored to specific needs of different agro-ecological zones of the country, and advocacy for sustainable natural resource management.

**19.** Support under this sub-component will include: (i) upgrading soil and water testing laboratory infrastructure; (ii) strengthening land mapping capacities (with investments in technical assistance, critical equipment, ICT and software) and digitalizing map information with open-data access; (iii) developing best practice guidelines on soil monitoring, mechanization practices/techniques, and fertilizer use adjusted to different soil types and agro-ecological zones as part of GAP guidelines, while making this information available to farmers through field-based extension services; (iv) supporting design of climate-smart and small farm suitable machinery and equipment; and (v) piloting new digital technologies for soil and water testing/scanning, specifically portable field-based soil testing equipment to allow extension/advisory service officers to provide real time advice to farmers on soil and water quality and on adjustments needed to enhance natural resource management. The sub-component will also support capacity building to experts, scientists and local communities in natural resource management through a combination of: (a) awareness creation and training; (b) provision of field and office equipment and critical supplies; and (c) provision of extension services such as demonstrations, field days and 'hands-on' exercises. The sub-component will also invest in building capacity of MOA and other public institutions on CSA practices that lead to reduction of greenhouse gas (GHG) emissions and fertilizer use. The following main activities will be supported under this sub-component as per participating institution:

- a. **Ministry of Agriculture:** The Ministry, together with the State Committee for Land Resources, Geodesy, Cartography, and State Cadaster and other stakeholders, will carry out soil/water testing and scanning in the project areas, including by using innovative digital technologies, to provide information to farmers and establish/update the databases on land quality and fertility. The project will finance the cost of: (i) equipment; (ii) mobile laboratories and other tools; (iii) soil/water testing and scanning; and (iv) establishment of the land and soil-related databases. During 2020-2021, this work will be supported by the



Korean Green Growth Trust Fund, executed by WB.

- b. **Agency for Development of Horticulture and Greenhouses:** AMP will invest in mobile laboratories in each region to study the suitability of soil for creating orchards and other horticulture crops. This information is expected to reduce the risk for farmers when investing in intensive horticulture production.
- c. **Research Institute for Agricultural Mechanization:** The institute, under MOA, is responsible for generation of new mechanization technologies and applied research for adoption of technologies on different soils and in different agro-ecological zones. AMP would support applied research and testing of various smart-farm mechanization technologies by financing: (i) construction of new and renovation of existing mechanization workshop and laboratory buildings; (ii) equipment and engineering materials for workshop; (iii) agricultural machinery and equipment; and (iv) office and ICT equipment.
- d. **Center for Certification and Testing of Agricultural Machinery and Technologies:** This Center, under MOA, is responsible for: (i) development of new and revision of existing standards, methodological documents and procedures for testing of agricultural and land reclamation machinery, equipment and modern resource-saving cultivation technologies; (ii) various types of tests of land reclamation equipment, their units and assemblies, including imported with a view to determining the effectiveness of its application, taking into account the specific conditions of agricultural production in the country; (iii) testing of modern resource-saving technologies for crop cultivation with the use of new types of agricultural machinery; (iv) certification of compliance of foreign and domestic agricultural and land reclamation technologies with international standards and domestic regulatory and technical documents. The center has six (6) testing laboratories, 8 ha of testing ground, and 54 ha of irrigated land for machinery/equipment testing. AMP would assist to improve the quality of testing and registration of machinery and technologies adapted to various soils and agro-ecological zones, with the focus on promoting climate-smart mechanization. Key AMP investments would include: (i) construction of new and renovation of existing office, training/testing, and laboratory buildings; (ii) specialized equipment and goods for testing machinery, equipment, and technologies; and (iii) office and ICT equipment.
- e. **Design and Technology Center for Agricultural Machinery:** This Center conducts research on design of agricultural machinery and equipment and develop new designs ready for production. AMP would support development of small-scale machinery and equipment suitable for small farm-holdings, including *dehkan* farms and household plots, making them ready for local manufacturing by financing: (i) specialized and ICT equipment; and (ii) materials and goods necessary for development and testing of horticulture machinery.

**20. Sub-component 1.4 Farmer adoption support (US\$75.0 million).** The objective of this sub-component is to provide more effective knowledge and advisory support for adoption of productive and climate-smart technologies and practices to enable more reliable and higher quality outputs by farmers. Accordingly, modalities and arrangements will be developed that make the delivery of services effective, pluralistic, inclusive, and demand-driven. Advisory and extension services are a key element in developing human capital in rural areas. Agriculture is the main economic activity there, and advisory and extension services are probably the one channel for offering rural people on-farm trainings, including for women and youth, who otherwise do not have any access to vocational and higher education training. The sub-component aims to achieve this by supporting: (i) advisory and extension centers; (ii) service provision, including technology transfer through demonstrations, awareness creation, field and/or farmers' days, exhibitions, and trainings, including for cooperatives and partnerships; and (iii) intensive orchards pilots.

**21. Advisory/extension centers:** The sub-component will pilot an establishment of resource centers in selected districts to organize advisory and extension activities. Initially, twenty-six (26) district level centers, in two districts per region, will be established to generate lessons for future scale up. Financing will include support for development of the





institutional structure, and guidelines defining roles, responsibilities, accountability, financing, and functional processes. The establishment and/or strengthening of advisory and extension centers at central, regional, and local levels will involve: (i) development of training materials and training of trainers in the extension centers, especially on climate adaptation and mitigation approaches; (ii) construction of new, renovation/rehabilitation (of existing) and refurbishment (of both new and existing) infrastructure<sup>63</sup>, including training halls, audiovisual units, libraries and class rooms; and (iii) procurement of equipment, digital tools, farm machinery, vehicles, and demonstration materials, including inputs, field equipment, and audio-visual materials. Some of the advisory and extension centers could be established in partnership with private sector as stated in the *Agricultural Strategy*. AMP will engage with GIZ, USAID, FAO, OBSE, UNESCO, and UNDP to develop final implementation arrangements and models of service delivery, which will be described in POM.

**22. Service provision:** Service provision will focus on transfer of tested, low-cost, and scalable CSA technologies generated by sub-components 1.1-1.3 and from other sources to farmers. In doing so, the sub-component will cover costs associated with demonstrations of technologies both at advisory and extension centers and on farmers' plots, including the financing of operating costs and the procurement of seeds, fertilizer, farm machinery and other inputs, training, workshops, and experience sharing (exchange) visits. Training activities will focus on bridging knowledge and skill gaps for farmers and staff of the advisory and extension centers. The sub-component will also finance servers and computers to ensure internet connectivity to enable extension services to access knowledge database, agro-meteorological information and data, and develop digital solutions for extension delivery and increasing farmer outreach.

**23.** Another service of the advisory and extension centers will be to support establishment and/or strengthening of farm cooperatives that are being established in Uzbekistan. Agricultural cooperation is a new development, which has only started in early 2019 after the issuance of the Resolution of the President of Uzbekistan<sup>64</sup>. More than 45 horticulture farm cooperatives, with membership of small *dehkan* and larger farmers, were already established at the time of project appraisal, but their management and business capacity remain low. Most partnerships/clusters between agribusinesses and farmers remain informal. AMP will invest in capacity building of farm cooperatives (e.g. business coaching, management, accounting, and CSA<sup>65</sup>) and help productive partnerships sustain a long-term collaboration between agribusinesses and farmers.

**24. Intensive Orchard Pilots:** Uzbekistan has huge natural and competitive advantages in production of orchard fruits. These operations typically generate very high returns. Also, being highly labor intensive they create a significant number of durable and relatively well-paid jobs. However, this segment is severely under-developed due to a set of deep challenges. Orchard plantations are long-gestation investments, typically requiring long-term (5-10 years) finance/loans; however, the longest-term loans currently available to farmers are for 1-2 years, and that too backed by non-land collaterals. Orchard farming also require specialized agronomic inputs and crop husbandry. Unless it is organized collectively or at a sufficient scale, these skills are not easily available to small farmers working on their own. Also, since these target higher-value segments and dynamic export markets, they require significant commercial and management skills. The GoU has declared an ambitious plan to rapidly develop the orchard farm segment, targeting 37,000 ha by 2021.

**25.** This sub-component will assist in this vital transformation by piloting intensive orchard farms on about 3,000 ha, with tentative budget of US\$65 million. The aim is to establish demonstration/extension pilots for intensive orchards in selected districts specialized in horticulture production, which will help, *inter alia*, with collective organization of an

<sup>63</sup> Investments in climate proof and energy efficient infrastructure will be pursued.

<sup>64</sup> Resolution of President of Uzbekistan No. PP-4239 "About Measures to Develop Agricultural Cooperation in Horticulture Sector," March 14, 2019.

<sup>65</sup> Specific topics can include improving farmers' skills in countering the increased incidence of pests, improved training for the selection of pest-resistant and/ or heat-stress-tolerant seed and crop varieties and providing information on improving on-farm water use efficiency. Topics come from stakeholder consultations undertaken in preparation of: Sutton, W. *et al.* 2013. *Reducing the Vulnerability of Uzbekistan's Agricultural Systems to Climate Change: Impact Assessment and Adaptation Options*. Washington, DC: World Bank.



interested group of farmers, build up their technical and managerial capacities over time, and assist with provision of external finance as well as external agronomic and business inputs needed for the orchard farms to succeed. These pilots will involve commercially-driven farmers and executed as turn-key services provided by competitively-recruited private companies by the project.

**26. Component 2: Supporting Investments in High-Value Horticulture Value Chains (US\$200 million).** The objectives of this component are to facilitate farmers' participation in the new growth and investment opportunities created by economic liberalization and agricultural diversification, support collective actions among farmers, and enable productive partnerships/clusters between farm groups and agribusinesses. This objective will be achieved through a mix of technical support provided under sub-component 1.4 and piloting of two credit windows that would offer a long-term financing tailored to the needs of farmers and agribusinesses. This kind of financing is still lacking in the domestic banking sector and the project will offer the following special financing windows to promote inclusion of small farmers in value chains:

- a. ***Credit window for farm cooperatives and cooperations in horticulture sector (US\$50 million):*** This window will provide loans to farm cooperatives and participants of the cooperations in horticulture sector for investments in infrastructure, machinery and equipment, and other assets to promote their collective actions. Typical investments would be in intensive orchards and greenhouses; energy efficient irrigation systems; solar water heating systems; water lifting using photovoltaic stations; adoption of other climate-smart water saving and mechanization technologies; and processing and storage facilities, including to reduce exposure to extreme weather conditions. Farm cooperatives will be supported by sub-component 1.4 that seeks to strengthen their business capacity and help them prepare bankable climate-informed business plans to receive loans.
- b. ***Credit window for productive partnerships (US\$150 million):*** Many agribusinesses have informal arrangements with farmers. This informality reduces the value of cooperation and creates market failures in the form of foregone economic opportunities for both agribusinesses and farmers. This window will provide loans to agribusinesses, who will be entering into formal contract agreements with farmers and farm cooperatives, through productive partnerships, including the provision of advisory services to farmers for amongst others better understanding of climate risks and available adaptation measures (e.g. use of CSA technologies and practices) and mitigation opportunities (e.g. energy efficient irrigation systems; solar water heating systems and water lifting using solar photovoltaic stations, support the conversion of some land from production of annual cotton and wheat crops to perennial fruits and vineyards), and provide technical assistance and/or value chain financing such as a working capital within a supply chain. Farmers participating in productive partnerships can also borrow. Value chain financing can help address an input credit constraint faced by small producers, who would have contractual links to an agro-processor or exporters.

**27.** The credit line will be implemented through PFIs, building on the satisfactory experience on using credit lines under HDP and LSDP. Potential PFIs for participation in AMP include those participating in HDP: Aloqabank (2 percent<sup>66</sup>), Asia Alliance Bank (1 percent), Asaka Bank (23 percent), Hamkornbank (1 percent), Qishloq Qurilish Bank (7 percent), Ipak Yuli Bank (4 percent), Ipoteka Bank (6 percent), the National Bank of Uzbekistan (27 percent), Turon Bank (8 percent), Uzpromstroybank (10 percent), and Xalq Bank (10 percent). The credit line will be implemented according to a project specific operational document, "the Credit Line Guidelines," that will be agreed with MOF and will be compliant with WB Guidance for Financial Intermediary Financing. Terms and conditions of the credit line will be articulated in the Credit Line Guidelines and their fulfillment will be a condition for any disbursement of credit line funds. PFIs will sign SLAs with MOF based on terms agreed in the Credit Line Guidelines. Investment eligibility criteria for the credit windows, including preference for climate resilient investments, will be outlined in the Guidelines. The credit line will make credit available

<sup>66</sup> In parenthesis is the share of the PFI in total loan disbursement under the HDP as of October 2019.



in both foreign currency and Uzbek Soms at the prevailing market interest rate.

**28. Component 3: Facilitating Trade and Marketing (US\$77.5 million).** The objective of this component is to improve market access for Uzbekistan's horticulture products through improvements in: (i) agro-logistics; (ii) plant protection and phytosanitary measures; and (iii) market information collection and dissemination.

**29. Sub-component 3.1 Establishing agro-logistical centers in selected regions (US\$65.0 million).** The objective of this sub-component is to create markets by improving agro-logistics infrastructure. AMP will finance construction of ALCs<sup>67</sup>, tentatively in Bukhara and Khorezm regions, which will be part of integrated network of ALCs. The ADB plans to finance six of such ALCs country wide, with the financing for the first three in Tashkent, Andijan and Samarkand is already secured<sup>68</sup>. Regional ALCs will be connected to a central hub in Tashkent to support horticulture export, promote CSA through crop diversification, improve food distribution and food safety, reduce food losses and waste, and give access to market to farm cooperatives, smallholders, and small traders. Streamlined processing platforms, including improved and new storage<sup>69</sup> facilities, reduce the risk of losses due to climate, and increase resilience.

**30.** ALCs can take many forms dependent upon the needs and requirements of a specific region, value chain structures and potential users. They can provide a large range of functionalities, which are particular for each context. Typically, they will include wholesale market services, collection, storage, conditioning (e.g. grading, sorting) and quality control services and a range of logistics services. Such centers can provide vital infrastructure to improve the organization of fresh food distribution in a specific region or country. They can be specialized in their design, focused exclusively on particular types of fresh produce such as fruits and vegetables or they can be more diverse, covering a range of products including meat, fish and other commodities.

**31.** ALCs can allow producers of all sizes in a specific region or country to gain access to the market (both wholesale and retail) and strengthen links with other market operators in the sector (other wholesalers, exporters, supermarkets). The centers can provide a platform for producers to better organize their activities, build synergies and economies of scale. They can also assist in facilitating vertical coordination in the value chain, where supply and demand for food products can find their equilibrium.

**32.** Investment in ALCs can provide an opportunity to improve the competitiveness of the entire agri-food sector in a specific region, by providing a space where all the operators will have access to the main services of logistics, sanitary controls, and security. This can create strong synergies among the operators and enhance their professionalization for the benefit of all value chain participants. Dependent upon the scale and needs, agri-logistics services may therefore include: (i) market services (farmer markets, wholesale, retail); (ii) storage services (dry, cool, cold, rapid freezing); (iii) value-added/processing services (sorting, grading, cleaning, packing and food processing); (iv) logistics and transportation services (including cross-docking); (v) advisory, training and consulting services; (vi) import and export services (customs, free trade zone, inspection, quality assurance, testing laboratories, certification); (v) finance, accounting and office services (meeting rooms, office space, banking, accounting, advisory); and (vi) other services (cash and carry, supermarkets, fuel services, other retail services etc.). Investment in ALCs is also expected to provide a fast track for Uzbekistan to extend its trade links across the broader central Asian region and beyond, connecting Uzbekistan to other satellite collection, conditioning and marketing centers in Russia/CIS and linked European and Asian markets.

**33.** Investments in ALCs will be guided by the Agro-Logistics Infrastructure Strategy and Plan, which is currently under

<sup>67</sup> Construction will be climate proof and energy efficient.

<sup>68</sup> The ADB Loan 3737-UZB: Horticulture Value Chain Infrastructure Project in the amount of US\$197 million will finance the establishment of the ALCs in Andijan, Samarkand, and Tashkent. The additional loan of the ADB will be secured in the amount of US\$150 million to finance the regional ALCs in Fergana, Jizzakh, and Surkhondaryo regions.

<sup>69</sup> Investments in storage facilities will be designed with an objective, among others, to reduce exposure of products to extreme weather conditions.



preparation. To guide the preparation of the ALC Strategy and Plan and to oversee its implementation, MOA has established the agro-logistics management coordination group chaired by the MOA Minister and consisting of the representatives of the Department for Attraction and Monitoring of Investments, Department for Agro Processing and Infrastructure Development, Department for Strategic Analysis and Forecasting, Department for Internal and External Market Analysis, the Center for Agricultural Standardization, and UZAIFSA. This group has been working with other MOA departments, other oversight ministries (MIFT and MOF), and development partners (ADB, FAO, WB, and USAID).

**34.** AMP plans to finance construction of two regional ALCs, tentatively in Bukhara and Khorezm regions, subject to confirmation during the project implementation from ALC Strategy and Plan and lessons learned from ADB investments in the first three ALCs. AMP could also finance feasibility studies for three additional ALCs in Fergana, Jizzakh, and Surkhandarya regions, the construction of which will be financed by ADB's second ALC project, to speed up the completion of Uzbekistan's ALC network.

**35.** Options considered for the management and operation of the ALCs:

- *Private Operator-Concession arrangement.* An experienced private sector operator could manage ALCs based on a concessional arrangement. This solution would allow the support of an efficient start-up of the activity by sector professionals. In particular, management companies of international reputation and experience in agri-logistics management are likely to be interested to in managing some of the ALCs. A market scoping exercise will be conducted early in project implementation to gauge international interest in such a model. Prospective private operators would not be expected to invest equity capital and/or finance the construction and/or equipment of the ALCs but would be solicited and employed because of their expertise and experience in operating such platforms for profit.
- *Semi-public Company-Concession arrangement.* ALCs could be managed by a semi-public company that would operate the site under a concession arrangement with GoU. The following features would be considered: (i) a public authority keeps a strategic control over the activities; and (ii) the managing company supports and manages all the operating costs and, possibly, future investments. A separate international service provider could be procured to provide capacity building in operational management aspects.

**36.** *International benchmarks:* Majority of wholesale markets world-wide are public or semi-public (83 percent) as the analysis of wholesale market ownership by World Union of Wholesale Markets shows based on its 141 members (Table A1.4).







**Table A1.4: EU experience from ownership and management of large wholesale markets**

	Ownership		Management	
Private	24	17%	32	22%
Public	83	59%	60	43%
Semi-public	34	24%	49	35%
Total	141	100%	141	100%

**37.** There are also examples of purely privately-operated markets, including, for example, Saint Charles in Perpignan and Lyon (Lyon-Corbas). On the other hand, market management is mostly private or semi-public (55 percent). The general trend is in the direction of a relative autonomy of the management companies from local or national authorities, in order to make management more agile and ready to adapt to the speed of changes in the sector. In Germany, for example, the management of the markets originally all managed directly by the cities, changed gradually in private management type (Table A1.5).



**Table A1.5: Example of management models of several agri-food platforms in Europe**

Figures 2018	Paris	Lyon	Madrid	Barcelona	London	Frankfurt	Milan	Verona	Turin
									
<b>Total area</b>	234 ha	12ha	222 ha	90 ha	23,6 ha	13,3 ha	81 ha	44 ha	57 ha
<b>Turnover (Million EUR)</b>	108	300. M (all cie)	26,2	26	17,8	-	12,7	7,6	6,8
<b>Company Structure</b>	Semi public company (2/3 public-1/3 private)	Ownership private Management through Association Syndicale Libre	Public Limited company (99% public)	Public Limited Company (99% public)	Public Company (100% public)	Wholesaler association /City of Frankfurt Semi public company	Joint Consortium Company (99% public)	Joint stock consortium company (84% public)	Joint stock consortium company (97% public)

**38. Sub-component 3.2 Strengthening plant protection and quarantine capacity (US\$5.0 million).** The objectives of this sub-component are to strengthen capacity of plant protection under MOA and Uzbekistan's SPQI for phytosanitary inspections, helping farmers and other relevant stakeholders to protect against pests and meet phytosanitary requirements, and negotiating phytosanitary market access. The number of pests and diseases increased substantially over the last few years. Warmer temperatures are favorable to pests and some of the diseases are new to Uzbekistan.

**39.** AMP will strengthen the plant protection services to respond faster and better to large infestations of pests (which includes insects, diseases and weeds), which cannot be managed by individual farmers. The extent and frequency of such infestations have increased in recent years, along with the increased heat stress in the country due to the climate change. The project will finance the procurement of mobile equipment and tools, laboratories, and other goods required for strengthening the capacity for delivery of plant protection services to farmers.

**40.** Aligning the national plant quarantine regulation with the international standards and best practices are essential for benefitting from WTO membership to expand Uzbekistan's exports as well as ensuring safe imports. The project will support SPQI to meet IPPC membership's requirements, which in turn would improve trade facilitation. The investments under this sub-component will include: (i) equipment for pest identification for the central laboratory of SPQI, laboratory equipment for fumigation testing/analysis in SPQI, and for pest detection and eradication (plant protection) activities; and (ii) capacity development for pest control to perform phytosanitary inspection, testing and certification actions regarding key exporting crops. The subcomponent will also include strengthening links between SPQI and GAP adoption, in particular IPM at farm level under advisory and extension services in Component 1 and CSA scale-up.

**41. Sub-component 3.3 Strengthening market information system (US\$7.5 million).** The objective of this sub-component is to develop the market information system at MOA and to promote improved use of agricultural market intelligence and information systems. The project will assess the system of market information and dissemination and will implement demand-based improvements in coverage and outreach, through website, extension services, and awareness raising campaigns, including on climate change and opportunities to implement climate adaptation and mitigation approaches. The project will also invest in digital infrastructure and solutions and in support for market intelligence in order to facilitate identification of medium-and long-term opportunities for suitable products and inform investment decisions that respond to climate change vulnerability. The project will pay attention to channel information through technologies that are accessible also to women and agri-entrepreneurs.

**42. Component 4: Supporting Project Management (US\$9.0 million).** This component will finance project management activities. The PIU will be established to coordinate implementation activities and will be located in UZAIFSA. The component will focus on strengthening UZAIFSA's capacity for project management, implementation of WB ESF, procurement and financial management, and M&E through the provision of goods, consultant services, training, and financing of incremental operating costs.





## ANNEX 2: Implementation Arrangements and Support Plan

### COUNTRY: Uzbekistan Agriculture Modernization Project

#### Institutional Arrangements

- 1. Overall coordination and governance.** The overall coordination of the project activities will be carried out by MOA. The MOA will approve the project's annual work plans and budgets. At the regional level, the project will carry out periodic consultations with farmers, other private sector, and local government to provide general feedback mechanism on project implementation and identify the emerging priorities. These consultations will provide input into the planning of activities at the regional level and would be an important mechanism for ensuring citizen and stakeholder engagement in the project area.
- 2. Project Implementation Unit.** A PIU will be established within UZAIFSA to facilitate day-to-day coordination of the project implementation<sup>70</sup>. UZAIFSA has already established capacity for fiduciary and project facilitation experience through its long experience implementing donor programs. Established in 1998 under the Ministry of Agriculture and Water Resources to implement agriculture and rural investment projects, UZAIFSA has acted as an executing agency for projects financed by ADB, IFAD, and WB. As part of the re-organization and reform of the MOA in early 2018, UZAIFSA was administratively shifted to the Cabinet of Ministers. In October 2019, it was moved to MOA to become an agency to implement agricultural projects financed by IFIs. At the regional level, UZAIFSA is administratively located within regional hokimiyats structure with dedicated staff in regional UZAIFSA offices.
- 3.** To establish the PIU, UZAIFSA will utilize its Tashkent and regional offices. Additional technical staff would be hired for the project, including: (i) project coordinator; (ii) coordinators for all components; (iii) engineer; (iv) financial management specialist and accountant officer; (v) several procurement specialists; (vi) environmental safeguards specialist; (vii) social safeguards specialist; (viii) occupational health and labor safety specialist; (ix) communication and HR specialist; and (x) M&E specialist. Additional staff will be recruited at national and regional levels as needed.
- 4. Implementing institutions.** UZAIFSA will work closely with implementing institutions, who will be responsible for implementing specific project activities. They include the following:
  - a. **Component 1:** (i) *Agricultural research institutes*, under MOA, will carry out applied research activities, including on seed breeding, and climate-smart agriculture technologies and farming practices; and (ii) *Departments, agencies, and centers*, under MOA, will carry out seed/seedling registration and production, quality assurance of seedlings, soil testing and scanning, development of the national GAP manuals, updating of agro-technological maps, agricultural extension services, and development of farm cooperatives; (iii) *Agricultural Inspection* under the Cabinet of Ministers will carry out activities for seed quality assurance; and (iv) *Engineering Design Center for Agricultural Machinery Construction* will conduct research on design of agricultural machinery and equipment and develop new machine designs.
  - b. **Component 2:** *PFI*s will channel credit lines to farmers, the members of farm cooperatives, and agribusinesses, which enter into productive partnerships with farmers.
  - c. **Component 3:** (i) The agro-logistics management coordination group under MOA will provide technical

<sup>70</sup> UZAIFSA's role and mandate has been revised as per the Presidential Decree No. 5853 dated October 23, 2019 and the Agency will function under the MOA's subordination. The UZAIFSA's current by-laws, namely the Governmental Resolution No.940 dated November 21, 2018, is expected to be modified, through a separate Resolution, to align its current status to the recently adopted Presidential Decree.



inputs to design investments in ALCs and determine their management practices; (ii) *SPQI, under the Cabinet of Ministers*, will be responsible for the project activities to strengthen quarantine security of the country; (iii) *Plant protection services of MOA* will carry out plant protection activities in the project areas; and (iv) *MOA* will host the market information system supported by the project.

5. To support implementing institutions, UZAIFSA will contract service providers, as needed, to provide technical expertise and capacity building for Component 1's activities, especially for agricultural research institutes and advisory and extension services.

### Financial Management Arrangements

6. FM arrangements of UZAIFSA are considered acceptable for implementation of the project after the risk mitigation measures listed in the below table are addressed prior to the project effectiveness and during the project implementation. The Fiduciary Risk for the project is assessed as Moderate considering the experience of UZAIFSA in implementing WB and other IFIs projects, and thus the built-on experience and knowledge with respect to FM and internal controls. UZAIFSA will submit quarterly IFRs to WB. Audit of the project financial statements will be carried out for each financial year and at the closing of the project by an eligible audit firm, in accordance with TOR acceptable to WB. The project audit report will be publicly disclosed by UZAIFSA and WB on their respective websites. No entity audits will be required. Based on the performed assessment, FM and disbursement arrangements for the project will include the following risk mitigation measures:

Measure	Responsibility	Due Date
The Project Implementation Unit has been established within UZAIFSA	UZAIFSA	Effectiveness condition
The Project Operations Manual has been adopted by the Borrower in form and substance satisfactory to WB	UZAIFSA	Effectiveness condition
The Borrower has adopted the Credit Line Guidelines in accordance with the Loan Agreement	UZAIFSA	Disbursement condition for Credit Line
The Project Implementation Unit has installed a separate module in the existing accounting software for managing the accounting and financial reporting of the project	UZAIFSA	Legal covenant (within 60 days from project effectiveness)

7. The primary implementing agency for the project will be MOA. UZAIFSA, which will host the PIU, will be responsible for all fiduciary tasks, including coordination and facilitation of day-to-day implementation of the project in close collaboration with implementing institutions, which include research institutes, departments, directorates, and agencies answerable to MOA, and SPQI under the Cabinet of Ministers, and the Agricultural Inspection, under the Cabinet of Ministers. UZAIFSA will manage all FM transactions.

8. The overall FM risk for the project before and after mitigation measures is Moderate. Adequate mitigation measures will be put in place to ensure that the residual risk is acceptable.

9. **Supervision Plan.** As part of its project implementation support missions, WB will conduct risk-based FM supervisions of UZAIFSA at appropriate intervals (first supervision will be conducted within a year since the project effectiveness). As required, the WB-accredited FM Specialist will assist in the supervision process. WB will also conduct implementation support visits of beneficiaries/implementing entities (PFIs, research institutes, etc.) based on the assessment of project performance (e.g. low utilization of funds and feedback from beneficiaries/implementers).

10. **Staffing.** The FM specialist and accountant officer, to be recruited for the PIU, will be trained on WB policies and procedures and with additional implementation support after project effectiveness.

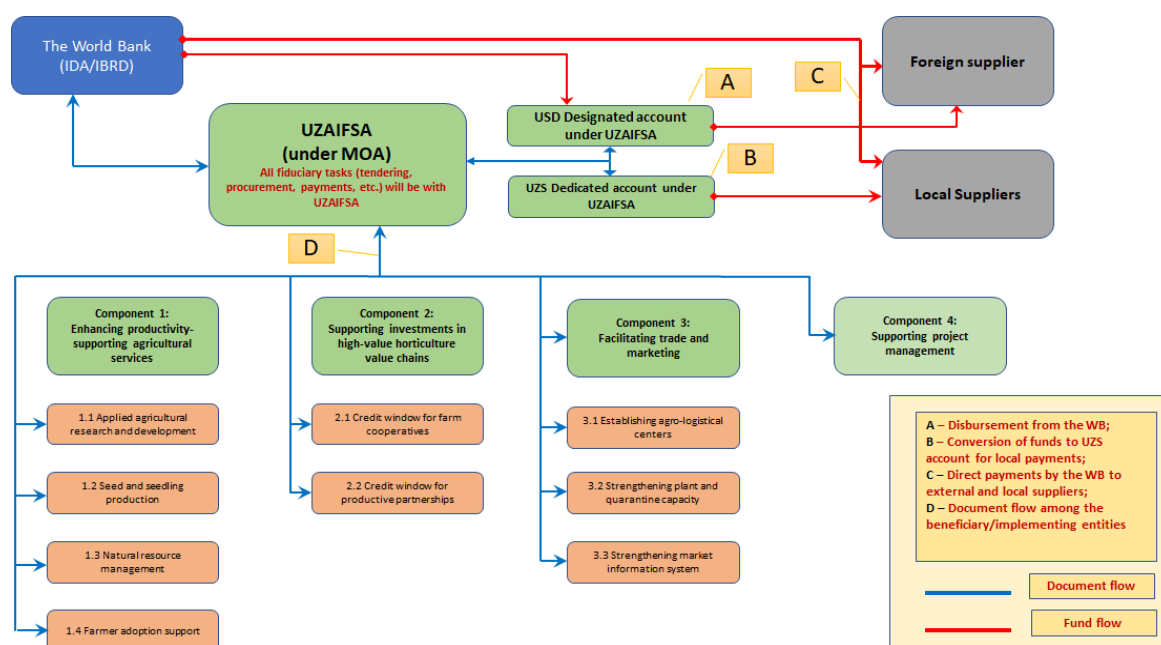
11. **Budgeting and flow of funds.** UZAIFSA will prepare annual budget, based on PP and operating expenses





estimations, and will have it mandated by relevant state agencies. The UZAIFSA's Director, project coordinator, and FM specialist will be responsible for the project budget preparation, planning, and execution procedures. The budget will form the basis for allocating the funds as per project activities and project periods. Based on agreed budget, UZAIFSA will be entitled to use funds from UZAIFSA designated account. For credit line, the funds will flow via UZAIFSA to PFIs, which will be selected based on the due diligence on line with the credit line guidelines, to be adopted by UZAIFSA after receiving clearance from CBU, MOF, and WB.

Implementation arrangement chart



**12. Accounting.** UZAIFSA will be in charge of keeping accounting records for the project in the accounting system, which would be installed duly. The project accounting records will be maintained in accordance with the Cash Basis International Public Sector Accounting Standards. At the same time, UZAIFSA will apply accrual basis accounting for state agencies/authorities' needs. This accounting system would allow fully automated accounting and reporting (automatic generation of SOEs, IFRs, and statutory reports). The system will have in-built controls to ensure data security, integrity, and reliability. The accounting records will be maintained in the currency of payment, as well as in the US\$ equivalent, applying an actual exchange rate used at the currency conversion. The accounting records will include the details such as all individual payments under each contract and balances and transactions from the Designated/transit account.

**13. Financial Reporting.** UZAIFSA will prepare and submit IFRs to WB every calendar quarter within 45 days after the end of each calendar quarter, starting with the quarter in which the first disbursement occurs. The format of IFRs will be agreed and will include: (a) Project Sources and Uses of Funds; (b) Uses of Funds by Project Activities; (c) Project Balance Sheet; (d) Designated Account Statement; and (e) a Statement of Expenditure Withdrawal Schedule. IFRs will be automatically generated by the project accounting software.

**14. Internal controls.** UZAIFSA will establish an internal control system for the project that should be capable of providing reliable and adequate controls over financial management and disbursement processes and procedures. These will include controls for safeguard of assets, segregation of duties, authorization of transactions, review and approval of invoices, and contract management, among others. The internal control system to be used by UZAIFSA, and additional reporting and auditing requirements, will be specified in detail in the POM. The POM will be prepared by UZAIFSA and



this is presented as an effectiveness condition.

**15. External audit:** UZAIFSA will be responsible for arranging the annual audit of the Project Financial Statements. The Project Financial Statements' audit will be conducted by independent private auditor firm on TOR acceptable to WB. The audit will include: (a) audit of project financial statements; and (b) review of the internal controls of UZAIFSA with special attention to the compliance with requirements established in WB guidelines and procedures and also the local legislation requirements. No entity audit will be required. The audited project financial statements will be disclosed to the public in a manner acceptable to WB. Following the WB's formal receipt of these statements from the Borrower, WB will make them available to the public in accordance with the WB Policy on Access to Information. Audit of the project financial statements will be financed from the loan proceeds.

Audit of Project Financial Statements	Due date
<b>Project Financial Statements</b> The Project Financial Statements include Project Balance Sheet, Sources and Uses of Funds, Uses of Funds by project activities, Statement of Expenditures Withdrawal Schedule, Designated Account Statement, Notes to the financial statements, and Reconciliation Statement. No Entity audit (i.e. audit of UZAIFSA) will be required under the project.	Within 6 months of the end of each fiscal year and also at the closing of the project

**16. Disbursement.** UZAIFSA will be in charge of planning and managing project disbursements, as well as preparation and submission of withdrawal applications to WB. For this purpose, UZAIFSA shall have additional account created in the WB Client Connection platform. The details, such as the ceiling for the Designated Account, would be provided in the Disbursement and Financial Information Letter/Disbursement Letter. The project would use standard disbursement methods, including Advances (Designated Account), Direct payments, Reimbursements and Special Commitments. A designated account will be opened and maintained in the commercial bank/financial institution acceptable to WB for the Credit/Loan and the project related funds flows and payments of eligible expenditures and will not be pooled with other funds not related to Credit/Loan and/or Project. Eligible project expenditures, consisting of regular goods, consulting services, non-consulting services, training and operating costs, would be documented to WB using Statements of Expenditure and full documentation.

## Procurement

**17. Procurement risk assessment.** Procurement capacity assessment was performed by WB using the Procurement Risk Assessment and Management System (P-RAMS). The overall Procurement risk is assessed as Moderate. The key risks concerning procurement for implementation of the project include generic and systemic weaknesses in the areas of: (i) weak implementation capacity in PIUs and inefficient procurement processes; (ii) delays in procurement processes resulting from the complex and time-consuming Government internal approval of procurement decisions; (iii) poor capacity, practice and tools for efficient contract management and monitoring; and (iv) procurement malpractices and weak integrity safeguards particularly in the water sector. Preliminary Risk mitigation measures are: (i) strengthen and promote consolidation of overall procurement capacity of the implementing entities and particularly for technical specifications preparation and efficiency of managing procurement processes; (ii) agree with Borrower for the hiring of a procurement consultant to manage the procurement processes for high-value contracts for Works. The terms of reference for key consulting services will be prepared in advance and procurement processes will be launched early, to ensure immediate start-up of such activities soon as the project becomes effective. The consultant will carry out the detailed engineering designs, prepare technical specifications, cost estimates, procurement documentation, and other associated support to enable timely tendering and contract award. During construction, the consultant will act as the Engineer (employers' representative) under FIDIC-based contract and carry out supervision and contract administration procedures with reference to quality, cost and time controls, to support implementation of the infrastructure activities. The Consultant will also be tasked with management of environmental and social safeguards procedures to help ensuring



compliance with the WB policies and procedures; (iii) development of POM with a detailed chapter on procurement, including description of decision-making processes and accountability and integrity safeguards for procurement decisions; (iv) putting in place an efficient contract management mechanism.

**18. Procurement supervision and ex-post review.** Routine procurement reviews and support will be provided by the procurement team based in the Tashkent WB country office. In addition, at least two project implementation support missions will take place each year, during which procurement ex-post reviews will be conducted for the contracts that are not subject to WB prior review on a sample basis (covering 20 percent of contracts). One procurement ex-post review report will be prepared per fiscal year, including the findings of physical inspections of not less than 10 percent of the contracts awarded during the review period.

### **Environmental and Social Framework**

**19. ESF Institutional Arrangements.** UZAIFSA is well experienced with implementing the donor-financed projects on agriculture and water resource management and they have a good record of working hand-in-hand with the line ministries to deliver specific programs. In the current project portfolio, UZAIFSA has been performing satisfactorily on managing credit lines and less satisfactorily on complementary programs related to delivery of public services and inclusion of small dehkan farms, the activities to be supported by AMP. The track record on monitoring and managing safeguards issues under the WB implemented and currently under implementation (HDP, LSDP, and Climate Adaptation for Aral Sea basin project) is overall positive and proves that the agency has good in-house institutional and human capacity for ensuring social and environmental safeguards under the AMP. The agency hired five (5) environmental and social safeguards specialists which have necessary experience and knowledge on WB and national environmental and social assessment frameworks. Furthermore, recently UZAIFSA hired additional five (5) safeguards specialists, who are in the different country's provinces with the main task to oversee implementation of safeguards documents while implementing various agricultural projects. At same time, the agency has a limited experience and knowledge on addressing the requirements, which are related to new WB ESF, in particular those related to labor and working conditions and labor safety issues, community health and safety, incidence reporting protocols, and biodiversity conservation - mostly in terms of requirements for preventing introduction of new seed varieties, which may have risks and impacts related to biodiversity and ecosystem services. While the agency has experience with financial intermediaries, the environmental and social screening and monitoring arrangements for credit line services must be re-assessed and possibly expanded to be consistent with the requirements under the ESS9 on Financial Intermediaries. The project will support necessary capacity building activities in specified areas.

**20. WB assistance in complying with the ESSs.** WB's environmental and social specialists will provide support to UZAIFSA to ensure smooth implementation of the project activities in consistency with the applicable WB's ESSs. Regular site visits will be carried out to monitor the compliance of the contractors with good construction practices and other requirements to be specified in site-specific ESMPs. Additionally, the social specialists will be reviewing the consistency of land acquisition with the requirements of the RPF and RAPs to be prepared for project activities. The WB task team will provide guidance on, and review, key environmental and social monitoring documents, such as site specific ESIA, ESMPs, RAPs, and progress reports and support UZAIFSA in meeting its commitments set out in the ESCP.



## **ANNEX 3: Economic and Financial Analysis and Greenhouse Gas Accounting**

### **COUNTRY: Uzbekistan Agriculture Modernization Project**

#### **I. Introduction**

1. Direct financial and economic gains will arise from: (i) shifting the farmland areas from production of less profitable cotton and wheat to production of more profitable horticulture products; (ii) increasing productivity of the existing horticulture production through adoption of improved seeds and seedlings, GAP, and other climate-smart technologies tailored to the needs of specific agro-ecological zones; (iii) improving the quality of products and accessing more markets through cooperation and productive partnerships, as well as investments in storage and processing; and (iv) reducing marketing costs through better agro-logistics, phytosanitary measures, and market information.

2. Indirect benefits, which are not included in this economic and financial analysis as they are difficult to quantify, include: (i) increase in economic activity during and after construction of ALCs and other infrastructure financed by the project; (ii) reduction of post-harvest losses and food waste at ALCs and through productive partnerships and farm cooperatives; (iii) increase in exports of fruits and vegetables; (iv) efficiency gained in horticulture value chains; (v) more transparent price formation, due to the productive partnerships, ALCs, and market information system; (vi) social and environmental benefits of including farmers into modern food value chains, reduction of GHG emissions, and more efficient use of soil and water; and (vii) local economic development.

#### **II. Financial Analysis**

3. The project will generate direct economic benefits in the areas where farmland is reallocated from production of cotton and wheat to production of fruits and vegetables, which would immediately increase the income of farmers. Horticulture production is 5-7 times more profitable than cotton/wheat production. Yet, farmers could generate such high incomes from horticulture production only if they can sell horticulture produce fresh (during a short period of time) at the expected (high) prices. In case of overproduction and logistical bottlenecks for storage and exports, the saturation of import markets or the inability to meet the strict import requirements, farmers would need to sell their rapidly perishable products for processing or local markets at discounted prices. Even in this case, however, the profitability of horticulture production would on average exceed the profitability of cotton or wheat production. The benefits on the converted farmland is not included in the project's estimates as they are likely to occur in any case.

4. What is less ensured are economic and financial benefits of the project investments on the existing land under horticulture production. Several illustrative models were prepared to demonstrate the likely choice of crops and technologies to be financed with support of the project, and their benefits. The net flow of benefits "with the project" in these models are deducted from the net flow of benefits "without the project" scenarios, because without the project farmers are likely to produce these crops using traditional, less productive technologies. The exchange rate is fixed at 9,500 UZ Soms/US\$ (as of October 2019). The financial models for potatoes, open field tomatoes and cucumbers, greenhouse tomatoes and cucumbers, traditional and intensive apple orchards, sweet cherry orchards, and apricot orchards all show the positive net present value well above investments.

#### **III. Economic Analysis**

5. The ENPV is estimated at US\$570 million and the ERR is 26.5 percent.

6. The economic benefits consist of two parts:

- a. *Benefits from more profitable horticulture production:* ENPV of US\$542 million and ERR of 26.8 percent.



These benefits are assumed to be generated from 35,000 ha or 10 percent of total horticulture growing areas in the country.

- b. *Benefits from investing in two ALCs:* Economic NPV of US\$28 million and ERR of 20.0 percent. The ALC income would comprise rental of: (i) post-harvest processing/grading, sorting/packing facilities for a range of fruit and vegetables products; and (ii) cold storage and frozen storage on a daily/monthly basis.

7. The period of economic analysis is 15 years to account for the phasing and gestation period of the proposed interventions. The conservative scenario is presented in the analysis and it represents the scope of profitability originated from the conditions prevailing at the time of the project preparation.

#### **IV. GHG Emission Assessment**

##### Background and Methodology

8. In its 2012 Environment Strategy, the WB adopted a corporate mandate to conduct Greenhouse Gas (GHG) emissions accounting for investment lending. The quantification of GHG emissions is an important step in managing and ultimately reducing emissions and is becoming common practice for many international financial institutions. To assess a project's net carbon balance, the WB has adopted the Ex-Ante Carbon-balance Tool (EX-ACT) developed by FAO in 2010<sup>71</sup>. EX-ACT is a land-based appraisal system that allows the assessment of a project's net carbon-balance, defined as the net balance of CO<sub>2</sub> equivalent (tCO<sub>2</sub>-eq) GHGs that were emitted or sequestered as a result of project implementation compared to a business-as-usual scenario. EX-ACT estimates the carbon stock changes (i.e. emissions or sinks of CO<sub>2</sub>) as well as GHG emissions per unit of land, expressed in equivalent tons of CO<sub>2</sub> per hectare and year. EX-ACT can be applied for a wide range of agriculture and forestry development projects as it covers a wide range of activities (e.g. afforestation, agroforestry, improved crop and livestock production practices, improved water management, use of inputs, building of infrastructure, etc.) and aims to support project designers in identifying project activities with high potential for climate change mitigation and can thus support planning and decision-making.

##### Application of EX-ACT for the Project

9. *Project area relevant for analysis.* The project finances several activities that can be captured with the GHG accounting tool. Component 1 focuses on a set of interventions that aim to increase the adoption of improved agricultural practices and nutrient management and includes the extension of orchards with perennial trees, in addition to Component 2's contribution. The project area, on which improved technologies are projected to be adopted, is 35,000 ha. The project will finance activities, which will: (i) change farming practices on this area, promoting adoption of improved technologies and farming practices, and reduce the use of agricultural chemicals per hectare through precision agriculture; and (ii) support the conversion of some land from production of annual cotton and wheat crops to perennial fruits and vineyards. Expansion of will also encourage adoption of drip irrigation and other water-saving technologies, which will replace water-intensive flood irrigation practiced on traditional gardens and fields. Component 3 finances the construction of ALCs. The GHG accounting with EX-ACT for the project considers investments in agricultural research and advisory services, changes in non-forest land use, and off-farm infrastructure and the resulting changes in EX-ACT's "Land Use Change", "Crop Production", and "Inputs Investments" modules.

10. *Assumptions.* Uzbekistan has a warm temperature climate and dry climate. The dominate soil type is High Activity Clay soil. The project implementation phase is 6 years and the capitalization phase 9 years. This amounts to 15 years total duration, which is in the standard range for the use of EX-ACT and in line with the project's economic and financial analysis assumptions. For the analysis, the "Business as usual scenario" is expected not to differ from the "Baseline scenario". This default scenario is deemed reasonable as changes in agricultural activity depend on the technology available, which

<sup>71</sup> <http://www.fao.org/tc/exact/ex-act-home/en/>



is a contribution of the project at hand. The GHG analysis further assumes that the dynamics of change are linear over the duration of the project. Information for the GHG accounting is drawn from sources generated for the preparation of the project, and Project Administration Manual (October 2018) for ADB's Uzbekistan: Horticulture Value Chain Infrastructure Project (for ALC data).

**11. Crop production.** The activities of Component 1 will lead to improved agronomic practices, which is captured in EX-ACT's "Crop Production" module. Specifically, the land area with the project for the GHG analysis is assumed to be 35,000 ha. On this area the project beneficiaries are assumed to adopt improved agronomic and nutrient management practices. The current production of annual crops encompasses 18,000 ha and is expected to remain the same during project implementation, but with improved agronomic and nutrient practices. Similarly, 17,000 ha are used for perennial crop cultivation at baseline and are expected to remain for perennial production, but with improved agronomic practices and nutrient management. The area and proportionality of annual and perennial crop cultivation are assumed not to change during project implementation.

**12. Land Use Change (LUC).** We assume that the activities under Components 1 and 2 related to expansion of orchards growing area at the expense of cotton and wheat growing areas will lead to non-forest land use change which is captured in EX-ACT's "LUC" module. The activities are expected to lead to 3,000 ha of land that will convert from production of annual cotton and wheat crops, and degraded land, to perennial fruits. The analysis assumes that improved management practices will be adopted there.

**13. Inputs.** The key inputs considered in the GHG analysis are: (i) the construction of two ALCs, and (ii) use of pesticides and fertilizers (urea and phosphorus).

**14.** The table below provides data inputs for the current/ without and with project scenario.

Activities	Current/ Without project scenario	With project scenario
Introducing improved agricultural practices	No improved practices for potatoes production No improved practices for vegetables production No improved practices in traditional orchards No improved practices in traditional vineyards	Improved practices for 7,000 ha potatoes production Improved practices for 12,000 ha vegetables production Improved practices for 13,000 ha of intensive gardens Improved practices for 3,000 ha of vineyards
Expansion of orchards growing area	500 ha producing cotton and wheat 2,500 ha degraded land where cotton and wheat where previously produced	3,000 ha orchards growing area
Construction of ALCs	0	Two ALCs will be constructed
Farm inputs use	0.15 tons of active ingredient of pesticides per year per ha 250 tons of urea per year per ha 200 tons of phosphorus per year per ha	0.10 tons of active ingredient of pesticides per year per hectare 270 tons of urea per year per ha 220 tons of phosphorus per year per ha

## Results

**15. Net carbon balance.** The net carbon balance indicates tons of CO<sub>2</sub> equivalent (tCO<sub>2</sub>-eq) GHGs sequestered as a result of project implementation compared to a business-as-usual scenario. Over the project duration of 15 years, the project constitutes a carbon sink of 501,831 tCO<sub>2</sub>-eq. On a per year basis, the project will lead to a sink of 33,455 tCO<sub>2</sub>-



eq. Details of the results are shown in Table A3.1.

**Table A3.1: Results of the EX-Ante GHG Analysis**

Project activities	Over the economic project lifetime (tCO <sub>2</sub> eq)			Annual average (tCO <sub>2</sub> eq/year)		
	GHG emissions of "without project" scenario (1)	Gross emissions of "with project" scenario (2)	Net GHG emissions (2–1)	GHG emissions of "without project" scenario (3)	Gross emissions of "with project" scenario (4)	Net GHG emissions (4–3)
Annual Agriculture	0	-173,837	-173,837	0	-11,588	-11,588
Perennial Agriculture	0	-327,994	-327,994	0	-21,867	-21,867

**16. Caveats.** The project will finance advisory and post-harvest (collection, conditioning, storing, etc.) services and infrastructure that are demand-driven and not known ex-ante of the implementation. Hence, the extent and type the services to be provided cannot be accurately estimated.

#### V. Shadow Price of Carbon

**17.** The estimation of the net balance from all greenhouse gases expressed in CO<sub>2</sub>-equivalent that would be emitted or sequestered within the potential sub-projects was made and the social price of carbon was included in the economic analysis. According to the calculations in EX-ACT, the project showed a total balance of 501,831 tCO<sub>2</sub>-eq, which means that the project will have a positive carbon sequestration balance (Table A3.1). The overall carbon benefit (NPV) is estimated to range between US\$15.0 million in the low shadow price of carbon scenario to US\$30.0 million in the high shadow price of carbon scenario. Incorporation of this benefit into the economic analysis increases ERR by 0.8 percent and 1.7 percent, respectively.

#### VI. Sensitivity Analysis

**18.** Economic returns were tested against changes in benefits and costs and for various lags in the realization of benefits. In relative terms, the ERR is equally sensitive to changes in costs and in benefits. In absolute terms, these changes do not have significant impact on the ERR, and the economic viability is not threatened by either 20 percent decline in benefits or 20 percent increase in costs. The ERR remains well above the discount rate of 6 percent in both cases (Table A3.2). A two-year delay in project benefits reduces the ERR to 26.5 percent.

**Table A3.2: Sensitivity analysis of the project economic returns**

	Base case	Cost increase			Increase of benefits		Decrease of benefits			Delay of benefits	
		+10%	+20%	+40%	+10%	+20%	-10%	-20%	-40%	1 year	2 years
ENPV	585	561	536	487	621	743	463	427	270	584	582
ERR	27.6	25.5	23.7	20.5	28.9	30.9	24.6	22.2	16.7	27.0	26.5





## ANNEX 4: Maximizing Finance for Development

COUNTRY: Uzbekistan

Agriculture Modernization Project

- 1. AMP follows the Maximizing Finance for Development (MFD) approach and it is a MFD mobilizing project.** It has applied the “Cascade” in Agricultural Value Chains<sup>72</sup> to assess the underlying causes of market failures and look for private sector solutions or public interventions for enhancing private sector solutions to address market failures in horticulture value chains. The key identified constraints (e.g., market failures) include: (i) policy distortions, which hinder investments and export at scale; (ii) poor value chain organization; (iii) exclusion of smallholders from value chains; (iv) lack of public goods; and (v) outdated standards to enter profitable markets (Table A4.1).
- 2. MFD engagement in horticulture to address the above outlined constraints follows a phased approach.** It started in 2017 with policy dialogue on removing policy constraints for investment and export at scale (Table A5.1). This set of policy constraints was identified during the preparation of CPSD and a series of DPOs in consultation with the private sector and the GoU. At the start of the policy dialogue, the export of horticulture products was still under monopoly and heavily controlled by the state. By the end of 2019, most of the regulatory constraints had been removed. The key reforms included: (i) abolishment of export monopoly of Uzagroexport, the specialized state foreign trade company; (ii) abolishment of mandatory sale of 25 percent hard currency earning, and permission to keep 100 percent value of earned hard currency in exporters’ account; (iii) reduction in time to receive certificate and register the contract at the customs for horticulture exporters; (iv) elimination of railroad monopoly for export; (v) establishment of “green corridors” at border crossings; (vi) elimination of minimum export prices; and (vii) removal of full prepayment requirement for export contracts outside of Uzagroexport.
- 3. The second phase of the MFD engagement focused on implementation support for the initial reforms to attract private investments in horticulture value chains.** After removing the restrictive regulations, the GoU started to work on programs to improve access to finance that is suitable for the needs of farmers and agribusinesses. Investments in horticulture value chains usually include long-term investments in greenhouses, intensive orchards, cold storage, processing, and handling. Yet, products such as a long-term financing for cold storage and greenhouses that requires up to 7 years and for orchards up to 10 years, do not exist in the domestic banking sector. The longest-term lending product available to most farmers and agribusinesses from local banks is still a one to two years loans to finance working capital. The WB-supported HDP has been instrumental to make the long-term finance available suitable for the needs of horticulture value chain stakeholders. By the time of appraisal for AMP, the HDP had facilitated credit to more than 800 farms and agribusinesses through 13 PFIs. It has mobilized more than US\$100 million of additional private funds in the form of co-investments contributions. The credit line is complemented by HDP investments in public goods and services and by the IFC’s agri-finance program for the selected HDP’s PFIs.
- 4. AMP will initiate the third phase of MFD engagement, building on nuclear farms and lead agribusiness firms established with HDP’s support and focusing on inclusive value chain support with export orientation.** AMP will address key bottlenecks to private sector solutions identified in the *Agricultural Strategy*, which seeks to promote private investments by redefining the role of the state from planner and controller to market facilitator and investor in public goods. Most AMP funding will be used for financing generation and delivery of key public goods, for reducing high transaction costs of trade (through investments in agro-logistics and phytosanitary measures), and for reducing searching costs of small farmers (through farm cooperatives and productive partnerships). Private sector solutions such as farm cooperatives and productive partnerships establishment and strengthening are expected during AMP implementation.

<sup>72</sup> WBG report. 2018. *Future of Food – Maximizing Finance for Development in Agricultural Value Chains*.



These private solutions will have sufficient scale and sustainability to make a lasting impact, and they will also benefit from IFC's engagement in reforming the national standards and quality enhancement system, and advisory services to local companies to create joint-ventures with leaders in horticulture exports.

**Table A4.1: MFD phased engagement for Uzbekistan's horticulture sector development**

Constraints	Phase 1	Phase2	Phase 3
	Policy support	Implementation support	Inclusive value chain support for export orientation
Policy hindering investments and export at scale	Exchange rate liberalization, removal of export revenue surrender requirement (DPO1)  Removal of minimum export prices, export prepayment requirements, and Uzagroexport monopoly (DPO2)		Enabling environment for crop receipts, a financing instrument for secure finance (IFC)
Poor value chain organization	CPSD	Improved access to finance (HDP)  Agri-finance program with participating financial institutions (IFC)	Pilots for farm cooperatives and productive partnerships to access finance (AMP)  IFC advisory services on joint ventures between local horticulture exporters and global lead companies
Exclusion of small farms from value chains			Inclusive value chain development, public investments in agricultural extension and other programs for smallholders (AMP)
Lack of public goods	CPSD	Initial investments in public programs (HDP)	Public investments in service provision and agro-logistics (AMP)
Outdated standards to enter profitable markets	CPSD	Improvement of food safety institutions (HDP)	IFC advisory services on standards and global GAP  Development of Uzbekistan's GAP (AMP)

Source: WB staff.



## ANNEX 5: Donor Coordination

**COUNTRY: Uzbekistan**

**Agriculture Modernization Project**

1. The project will be adhering to the commitment made by bilateral and international partners to coordinate financial support to Uzbekistan as specified in the *Agricultural Strategy* and will actively coordinate with other development partners and complement their investments and technical assistance. Coordination will be conducted at the strategic level by MOA and at the project level by UZAIFSA. This coordination is aligned with the Country Platform piloted by G20. Table A5.1 presents the brief summary of the most relevant activities.

**Table A5.1: Summary of the WBG and other donor activities relevant to the AMP**

Donor	Brief description of project activities
EU agricultural budget support [2020-2024]	Budget support will be provided to MOF and MOA upon the achievement of the agreed prior actions on: (i) agri-foods safety and trade quality standards; (ii) related agri-food laboratory accreditation system; (iii) GAP farm assurance system; and (iv) agricultural land use rights and security.
ADB Horticulture Value Chain Infrastructure Project [2019-2024]	The project will finance: (i) establishment of ALCs in Andijan, Samarkand, and Tashkent; and (ii) improvement of ALC management capacity.
WB Horticulture Development Project, co-financed by the EU [2018-2023]	The project is financing: (i) improved access to credit; and (ii) agricultural support services such as agricultural R&D, value chain studies and knowledge management system, food safety improvements, and business advisory services.
WB Digital CASA Project [2020-2025]	The project will finance improvements in rural connectivity.
JICA Horticulture Value Chain promotion Project [2020-2025]	The proposed project will finance a credit line for horticulture agribusinesses, technical assistance in horticulture production, and capacity building of selected research institutes.
USAID Horticulture Value Chain Development Project	A series of projects financing capacity building of farmers and entrepreneurs in horticulture value chains
IFC Advisory Services	The IFC advisory engagement includes food safety, standard and quality infrastructure, agri-finance (CLARA), crop receipts, and joint ventures of local firms with leading horticulture companies
USAID Competitiveness, Trade, and Jobs Project [2016-2021]	The project is financing studies and capacity building on competitiveness and trade, including on sanitary and phytosanitary measures.
GIZ Value Chain Development Program [2018-2021]	The project is financing the capacity building for applied research, extension services, and farm cooperatives in horticulture, dairy, and fish value chains.
FAO Agricultural Programs	The program is providing technical assistance and capacity building for MOA and other stakeholders for a wide range of issues, including seed sector development, extension, farm cooperatives, and sanitary and phytosanitary measures.
UNEP and UNDP Green Climate Fund Readiness Program in Uzbekistan [2020-2024]	The proposed project will support development of agrometeorological information services for climate change resilient production of fruits and vegetables in Uzbekistan.
UNESCO on Agricultural Vocational Training [2019-2022]	The proposed project will use the EU grant in the amount of 10 million euro to strengthen selected agricultural vocational training colleges and develop the framework for enhanced agricultural vocational education.
OBSE Agricultural Extension Project [2019-2021]	The project has established an online depository of agricultural information, data, and extension/advisory materials, which could be utilized by the AMP.
KOPIA on Intensified Agriculture [2018-2022]	The project is providing extension support and developing training materials.



## ANNEX 6: Compliance of Line of Credit with OP 10.0 Financial Intermediary Financing

COUNTRY: Uzbekistan

### Agriculture Modernization Project

1. **Component 2: Supporting Investments in High-Value Horticulture Value Chains** will facilitate farmers' participation in investment opportunities created by economic liberalization and agricultural diversification and enable productive partnerships/clusters between farm groups and agribusinesses. This objective will be achieved through a mix of technical support provided under sub-component 1.4 and two credit windows that would offer long-term financing tailored to the needs of farmers and agribusinesses, which is still lacking in the domestic banking sector, specifically, a credit window for farm cooperatives and a credit window for productive partnerships. Detailed terms and conditions of the credit line will be reflected in Credit Line Guidelines.
2. **Credit Line Beneficiaries.** The primary beneficiaries are farmers, both *dehkan* and larger farms, agri-businesses, exporters, and service providers operating in horticulture value chains. Secondary beneficiaries will be PFIs through improved skills and acquisition of a more diverse menu of suitable financial products.
3. The interest rate to PFIs is to be finalized during the project negotiations with MOF and will need to be acceptable to WB. It is proposed to be:
  - i. The interest rate for Subsidiary Loans denominated in US Dollars shall be equivalent to the base rate, which will be the prevailing interest rate at which the Borrower shall have received loan proceeds from WB plus a spread set by the Borrower and agreed to by WB.
  - ii. The interest rate for Subsidiary Loans denominated in UZ Soms shall be equivalent to the base rate, which will be the prevailing interest rate at which the Borrower shall have received loan proceeds from WB plus a spread set by the Borrower from time to time and agreed to by WB.
4. PFIs will set their own interest rates and repayment terms to final sub-loans beneficiaries based on their banking considerations. The on-lending interest rate from PFIs to end borrowers will be sufficient to cover: (i) cost of funds; (ii) administrative expenses; (iii) loan loss risk; and (iv) a small profit margin to compensate PFI for taking the credit risk. This will be stated in the credit operations manual. PFIs will carry out full appraisal of sub-loans/eases and sub-borrowers based on the agreed criteria and will bear full risk of subsidiary loan repayment.
5. Other key terms and conditions:
  - i. *Maturity of the Subsidiary Loan.* The PFIs will receive funds and repay to MOF in equal semi-annual installments in accordance with the provisions in the Credit Line Guidelines.
  - ii. *Choice of currency.* The funds will be available both in UZ Soms and US Dollars, based on the demand of the sub-borrowers.
  - iii. *The maximum sub-loan size* under the farmer cooperative window will be up to US\$1 million, and up to US\$8 million for the value chain development, to ensure financing for larger loans to invest in cold storages and agro-processing equipment and other productive assets, as well as to support entire value chain development. Working capital loans will be up to US\$250,000 for up to 18 months, and the value chain financing products will have the maximum loan size of up to US\$2 million and maturity will depend on the nature of the transaction this loan will finance.
  - iv. *The maximum maturity* of the sub-loans will not exceed 10 years or the amortization period of the asset, whichever is shorter. The actual size and maturity of the loans will depend on the type of investment financed, profitability of the activity, cash-flows generated, collateral, and other banking considerations.

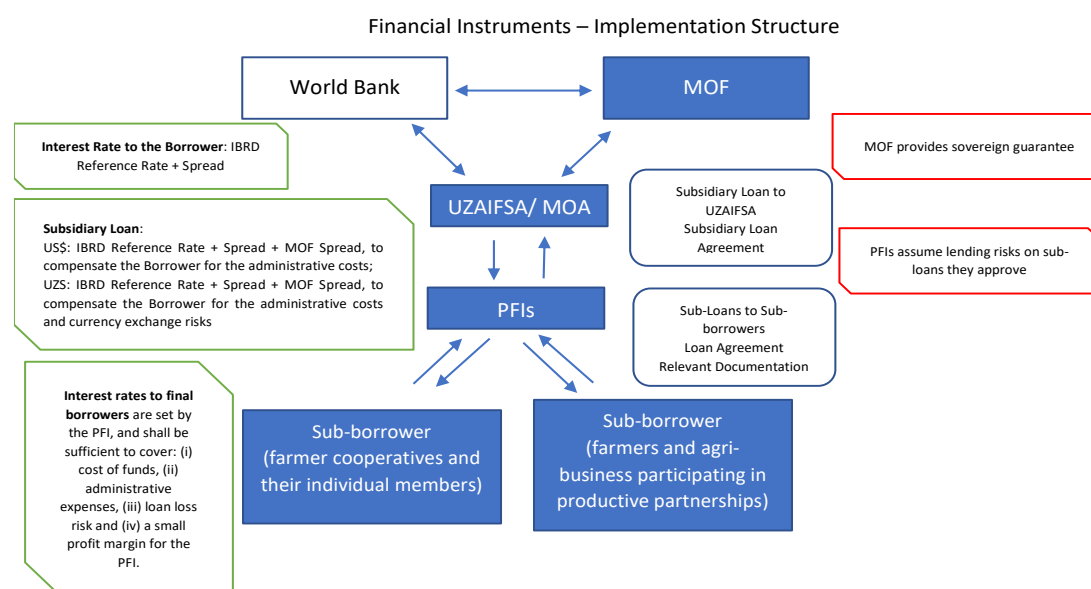


- v. **Maximum financing share:** The project will finance up to 100 percent of the sub-loans in US Dollars, while requiring 20 percent co-financing from PFIs for UZ Som sub-loans. Sub-borrowers will be required to contribute their own funds to sub-project financing, which will be specified in the Credit Line Guidelines.

6. The Credit Line beneficiaries will also have to comply with the national legislation on child and forced labor. A requirement for accessing value chain financing by a sub-borrower under this credit line will be an upstream or downstream contractual relationship within the value-chain, to ensure the viability of the productive linkages financed under the credit line. PFIs will have to hire a horticultural agronomist, or set up arrangements with suitable consulting companies, to ensure the technical feasibility of the investments financed.

7. Each subsidiary loan agreement with PFIs will be signed for a specific amount, based on the demand. Progress of disbursements will be monitored by UZAIFSA and WB to recommend flexibility in amending the subsidiary loan agreement amounts in case when some PFIs are much slower than others. The withdrawal procedures are briefly described in the paragraph below. Given the likelihood that a number of PFIs will qualify for participation, it will help ensuring the competitive environment necessary for the sub-borrowers to benefit from competitive terms and conditions of the financing.

## 8. Implementation structure.



9. **Withdrawals from the Credit Line.** Periodically, as agreed between PFI and UZAIFSA, PFIs will prepare Statements of Expenditure (SOE), in the agreed format, listing already financed sub-loans, as well as sub-loans approved by its Credit Committee but not yet financed<sup>73</sup>. SOE will be submitted together with the one-page Sub-loan Information Sheet for each sub-loan. The Sub-loan Information Sheet will contain key terms and conditions of the proposed sub-loan. UZAIFSA will review the list of sub-loans and the one-page summaries for every sub-loan to check the eligibility of the sub-loan against the criteria under the project<sup>74</sup>. Upon approval, the money will be transferred to PFI. The final withdrawal arrangements will be described in the Credit Line Guidelines.

10. **Monitoring.** Compliance of sub-loans with eligibility criteria, monitoring of sub-loan files, and PFI compliance with

<sup>73</sup> In cases, when PFI does not have an opportunity to extend financing due to the short maturity of the available financing or other considerations.

<sup>74</sup> It is only a "technical" review by UZAIFSA; financial appraisal of sub-loan, loan structuring and all banking considerations lie with PFI.



the eligibility criteria will be ensured by UZAIFSA. Regular visits to PFI branches to review the loan files for completeness and visits to borrower sites are two key components of the monitoring of credit line implementation. Based on the agreed procedure, on-site visits to the sub-loan sites are carried out no later than within four (4) months from the disbursement of the sub-loan. The work is led by the Credit Line Specialists in UZAIFSA's Regional Offices, supervised by the Component Coordinator at UZAIFSA in Tashkent, who also does selective on-site monitoring. The component will have M&E formats (as part of the operational manual to be developed), which will track both physical implementation of the component, as well as impact, based on a set of M&E indicators. In addition, independent Impact Assessments for the project, covering also the credit line activities, will be done from time to time.

**11. Benefits** will accrue to PFIs in form of an expanded portfolio in the rural/agricultural market niche, expanded menu of lending products, and broadened client base. The benefits to farmers and agribusinesses will be in the form of improved access to finance, improved productivity, resulting from the investments, better access to markets and profitability, including from the value chain financing instruments. Improved access to knowledge, new technologies and quality assurance system will result in increased yields due to improved land preparation, timely planting and harvesting, and a significant reduction in harvest losses.

**12. Risks.** Two possible risks have been identified:

- (1) **Risk:** A risk associated with the credit line is the possible lack of interest/slow-down in lending due to the nature of the credit line which aims to support farmer cooperatives and competitive value chains. Lending to cooperatives tends to be perceived by commercial banks as quite risky, although the project would provide technical assistance to the cooperatives.

**Mitigation measures:** The team welcomes a slow-down in the lending by PFIs. At the same time, the appropriate capacity building measures have been designed under the project to ensure that better-prepared potential borrowers approach the PFIs for loans.

- (2) **Risk:** Related to the above, the high increases in the credit to economy (mostly outside agriculture) may result in sub-par loan portfolio quality.

**Mitigation measures:** A close monitoring of PFIs by UZAIFSA and also WB would be ensured to identify any early signs of worsening financial or operational indicators of PFI. Regular dialogue with the Finance, Competitiveness and Innovation team should help ensure that any possible issues are identified early, and the appropriate remedial measures can be taken timely.

**13. Eligibility Criteria for PFIs.** In order to become a PFI, commercial banks have to qualify under a due diligence procedure in accordance with a set of operational, financial and management criteria indicated below, and have to sign a tri-partite SLA with MOF representing Uzbekistan and UZAIFSA. To maintain its eligibility as a PFI, the commercial banks have to meet the said criteria at all times. Potential PFIs will be individually appraised at the outset of the project implementation period, through a due diligence procedure, by UZAIFSA, and the recommendations will be subject to the WB's no objection. During the detailed due diligence assessment, particular attention will be given to the overall lending capabilities, and financial and portfolio performance. PFI must have satisfactory financial and management structure, a satisfactory risk-based capital adequacy, an acceptable asset quality and lending performance, adequate liquidity, and the organization, management and technical staff and other resources required for the efficient carrying out of the operations. The detailed criteria for the initial due diligence and continued maintenance of a PFI status will be provided in the operational manual for the credit line.