Agriculture Resilience, Value Chain Development and Innovation (ARDI) Program

PROGRAM FOR RESULTS

(P167946)

ENVIRONMENTAL AND SOCIAL SYSTEMS ASSESSMENT (ESSA)

Draft Addendum

August 2025

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ACRONYMS

ACC	Agricultural Credit Corporation
AF	Additional Financing
AI	Artificial Insemination
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ARDI	Agriculture Resilience, Value Chain Development and Innovation Program
BCA	Biological Control Agent
CSA	Climate Smart Agriculture
DLI	Disbursement Linked Indicator
DLR	Disbursement Linked Result
DU	Delivery Unit
ESCP	Environmental and Social Commitment Plan
ESF	Environmental and Social Framework
ESSA	Environmental and Social Systems Assessment
EU	European Union
FIDIC	International Federation of Consulting Engineers
GFI	Grant Financing Instrument
GIS	Geographic Information System
GM	Grievance Mechanism
GPD	Government Procurement Department
GRM	Grievance Redress Mechanism
GTD	General Tender Department
HEIS	Hands-on Extended Implementation Support
IAs	Implementing Agencies
ILO	International Labour Organization
IPF	Investment Project Financing
ISTA	International Seed Testing Association
JAP	Jordan Sustainable Agriculture Plan
JONEPS	Jordan's E-Procurement System
MDTF	Multi-Donor Trust Fund
MoEnv	Ministry of Environment
MoA	Ministry of Agriculture
MoF	Ministry of Finance
MoL	Ministry of Labor
MoPWH	Ministry of Public Works and Housing
MRL	Maximum Residue Limit
MWI	Ministry of Water and Irrigation
NARC	National Agricultural Research Center

NC	National Committee
NRWHP	National Rainwater Harvesting Plan
OHS	Occupational Health and Safety
PAP	Program Action Plan
PCC	Procurement Complaint Committee
PCP-FMD	Progressive Control Pathway for Foot and Mouth Disease
PDO	Program Development Objective
PforR	Program for Results
PP	Procurement Plan
PPC	Procurement Policy Committee
RA	Result Area
RF	Results Framework
RWH	Rainwater Harvesting
SBDs	Standard Bidding Documents
SEA/SH	Sexual Exploitation and Abuse / Sexual Harassment
SESA	Strategic Environmental and Social Assessment
SEP	Stakeholder Engagement Plan
SME	Small and Medium Enterprises
SOPs	Standard Operating Procedures
TA	Technical Assistance
ToT	Training of Trainers
TVSDC	Technical and Vocational Skills Development Commission
UNHCR	United Nations High Commissioner for Refugees
VTC	Vocational Training Center
WB	World Bank
WFP	World Food Programme
WOAH	World Organization for Animal Health

EXECUTIVE SUMMARY

This Addendum to the Environmental and Social Systems Assessment (ESSA) for the Agriculture Resilience, Value Chain Development and Innovation (ARDI) Program (P167946) evaluates the environmental and social (E&S) implications of the proposed Additional Financing (AF) and restructuring. It complements the parent ESSA, disclosed in April 2022, and should be read alongside it.

The ARDI Program, approved in September 2022, aims to strengthen climate resilience and improve the enabling environment for agricultural development in Jordan. The Program has made notable progress in promoting sustainable agricultural practices and enhancing service delivery, including rainwater harvesting (RWH), climate-smart agriculture (CSA) training, and targeted support for refugee populations.

This Addendum reassesses the relevance of the parent ESSA by examining:

i. Changes to previously identified risks and benefits.
ii. New risks and benefits introduced by proposed AF activities.
iii. Updates to the borrower's environmental and social systems.
iv. Evaluation of the borrower's E&S performance and track record; and
v. Recommendations to strengthen system implementation under the proposed AF and restructuring.

The proposed AF will expand the Program's scope and impact by financing the two key results areas (RAs):

i. Strengthening climate resilience and sustainability.
ii. Enhancing competitiveness and exports.

The restructuring will address implementation bottlenecks for Disbursement Linked Results (DLRs) and align them with current national regulations and context.

The E&S risk rating for the proposed AF and restructuring is confirmed as Substantial, consistent with the parent ESSA. This rating reflects the scale of the Program, the nature of the interventions, and the evolving institutional capacity of the implementing agencies. While the proposed AF introduces new activities, these do not significantly alter the Program's scope or risk profile. **The risks identified in the parent ESSA remain valid**.

Environmental benefits include improved water availability through RWH, groundwater recharge, vegetation support, climate resilience during dry periods, and eco-tourism and biodiversity enhancement. **Environmental risks** include localized impacts from RWH construction and operation, water quality concerns due to poor RWH management, biodiversity and habitat disruption, and soil erosion and runoff.

Social benefits include expanded extension services via virtual reality training, value chain development and export promotion, enhanced market access through rural product exhibitions and skills training, employment and livelihood support for vulnerable groups including refugees, and gender equity through targeted activities and disaggregated indicators. **Social risks** include exclusion of vulnerable groups from services and training, resource pressure and potential inequality, risk of benefit capture by large farmers, and labor and working condition concerns.

The Ministry of Agriculture (MoA) is working to strengthen the existing grievance mechanism (GM) by developing Standard Operating Procedures (SOPs) and collaborating with the Ministry of Labor (MoL) to ensure access to the workers' complaints platform.

The recommendations from the parent ESSA remain valid. Additional recommendations related to the proposed AF include expanding the Stakeholder Engagement Plan (SEP) to cover both the Program for Results (PforR) and Investment Project Financing (IPF) components, enhancing inclusion and gender monitoring, and updating E&S screening tools for RWH structures in Badia.

This Addendum has been reviewed with client counterparts and will be disclosed on the World Bank and MoA websites prior to the conclusion of the Appraisal.

1. INTRODUCTION

1.1 Background

In September 2022, the World Bank (WB) approved financing for the parent Agriculture Resilience, Value Chain Development and Innovation (ARDI) Program (P167946) under the Program for Results (PforR) instrument, supporting the Government of Jordan (GoJ) through the Ministry of Agriculture (MoA). The Program became effective on November 10, 2022, with closing date of June 30, 2029.

The Program Development Objective (PDO) of ARDI is to strengthen climate resilience and improve the enabling environment for agricultural development in selected value chains in Jordan. The operation[1] is structured as a hybrid, comprising:

i. A PforR component (the Program), and
ii. An Investment Project Financing (IPF) component (the Project). The IPF component provides technical assistance (TA) and implementation support to the MoA.

ARDI focuses on two Results Areas (RAs), supported by five[2] Disbursement Linked Indicators (DLIs):

i. **Results Area 1 – Climate Resilience and Sustainability:** Strengthening the resilience of agricultural production systems to climate change and promoting sustainable sector growth.

ii. **Results Area 2 – Competitiveness and Exports:** Enhancing the competitiveness of the agri-food sector by improving the agribusiness environment, addressing structural constraints, promoting value chains for exports and local markets, improving public service delivery, enhancing water use efficiency, and matching skilled labor with sector opportunities.

To ensure that environmental and social (E&S) risks and impacts in relation to the proposed AF and restructuring continue to be effectively avoided, minimized, and mitigated, the WB team has prepared this Addendum to the ESSA. The Addendum addresses potential additional E&S aspects that may arise from the proposed AF and restructuring of the ARDI Program. It does not replace the parent ESSA but should be read in conjunction with it.

The parent ESSA, prepared under the Bank Policy/Bank Directive for Program-for-Results Financing (formerly OP/BP 9.00), assessed the E&S systems of the three implementing agencies involved in the Program. The assessment focused on institutional capacity and performance, as well as the policy and regulatory framework governing environmental and social management.

[1] The operation means, collectively, all activities described under the Program for Results (the Program) and Investment Project Financing (the Project).

[2] DLI#1 - Adoption of sustainable rainwater harvesting (RWH) practices. DLI#2 - Innovation and improved performance of extension and animal health services. DLI#3 - Enabling services for Value Chain Development and Export Promotion. DLI#4 - On and off farm employment skills improved. DLI#5 - MoA delivery capacity secured.

1.2 Progress Update under the ARDI Program

The progress towards achieving the PDO and overall implementation of ARDI PforR is rated satisfactory as of June 30, 2025. By June 30, 2025, ARDI had disbursed US$ 67.87 million (54 percent of total financing), including US$ 5.5 million under the IPF component. The program has established essential structures and processes, including management teams, environmental and social focal points, and monitoring arrangements. The first audit reports for MoA and Agricultural Credit Corporation (ACC) for the year ending December 31, 2023, were submitted on time with clean audit opinions.

The ARDI Program has also made significant strides in promoting sustainable agricultural practices and improving service delivery. Notably, it increased rainwater harvesting (RWH) capacity by 2.2 million cubic meters and trained over 2,006 participants in CSA technologies. The Program also developed a National Rainwater Harvesting Plan (NRWHP), accompanied by comprehensive guidelines to ensure the effective implementation of rainwater harvesting structures across Jordan. In addition, the Program successfully launched a reimbursable grant financing instrument (GFI) for water use efficiency through the ACC. It has supported the updating of national extension and veterinary plans, with digitalization efforts currently underway to modernize these systems.

The Program has also prioritized refugee inclusion by enhancing access to extension services, delivering CSA training, and providing upskilling and job-matching services. To ensure meaningful participation of refugees in both the design and implementation of ARDI activities, the Program's delivery unit (DU) has actively collaborated with key stakeholders—including the United Nations High Commissioner for Refugees (UNHCR), the World Food Program (WFP), and the International Labor Organization (ILO)—as well as various departments within the MoA. This collaborative approach reflects ARDI's commitment to integrating refugees into its broader agricultural development objectives.

1.3 The Jordan National Sustainable Agriculture Plan (JAP) 2022-2025

The JAP provides a strategic framework for advancing Jordan's agri-food sector by addressing key challenges such as climate change, regional instability, and limited financial resources. Its core objectives are to improve the livelihoods of farmers, enhance sector productivity, and promote the efficient use of water resources. The plan places strong emphasis on investing in RWH systems and implementing policies that support water-efficient agricultural production and runoff water storage. In support of these goals, the Government has significantly increased the MoA's budget, thereby strengthening the Ministry's capacity to address climate resilience and improve the sector's overall competitiveness.

The MoA also progressed on implementing the E&S Program Action Plan (PAP) actions as shown in the following table and the following sections of this Addendum:

Table 1: Progress status of the E&S PAP actions/ Parent ESSA

Action	Parent ESSA Deadline	Status	Revised Deadline/AF
MoA to develop and incorporate worker and community health and safety technical specifications to be incorporated into the International Federation of Consulting Engineers (FIDIC) standard procurement document for RWH in Badia.	31-Mar-2023	Achieved	None
ACC to develop formalized procedure for E&S screening of loan applicants; enhance E&S specifications within grant agreements (incl. adherence to appr. technologies for treated wastewater use) and safe working conditions and prohibiting child labor	Due date before issuing grants under the program	Underway	December 2025
MoA engages with Ministry of Labor (MoL) to establish and advance shared objectives on decent work in agriculture and enforcement of regulations including establishing referral protocol to MoL GM	Ongoing 06/23	Underway	January 2026
MoA to improve Program GM as per ESSA findings, including outreach campaign on accessibility of GM channels, uptake channels and dispute resolution mechanism at community level, Standard Operating Procedures (SOPs) for GM	31-Mar-2023	Underway	November 2025
Completion report on refurbishment of 3 MoA nurseries	28-Feb-2025	Achieved	None
Strategic dialogue between MoA and Ministry of Environment (MoEnv) on developing mechanism for tracking, collection and efficient disposal of empty pesticide containers	Ongoing throughout program implementation	Achieved	None
MoA develops and implements regular monitoring programs to verify if farmers	31-Dec-2023	Achieved	None

adhere to requirements of pesticide dosage and preharvest interval.			
MoA to develop site child labor action plan detailing the monitoring protocol and actions list for addressing detected cases.	31-Dec-2023	Underway	September 2025

1.4 Purpose of the Essa Addendum

The parent ESSA, prepared and disclosed in April 2022, evaluated the environmental and social systems in place for the ARDI Program to ensure alignment with the WB's Core Principles for PforR Financing. In response to the GoJ's request for proposed AF and program restructuring, this Addendum has been developed to reassess the continued relevance of the parent ESSA.

Specifically, the Addendum examines: Changes to the risks and benefits identified in the parent ESSA; new risks and benefits introduced by the proposed AF's supported activities; updates to the borrower's environmental and social systems; the borrower's performance and track record in managing E&S aspects during Program implementation; and a set of agreed-upon recommendations and actions to strengthen system implementation under the AF and restructuring.

2. DESCRIPTION OF THE PROPOSED AF AND RESTRUCTURING

The proposed AF will build on existing institutional arrangements and contribute to scaling up the ambition and impact of the Program by providing financing to expand the two key RAs of the ARDI Program.

Specifically, the proposed AF support for RA 1 will improve RWH planning and execution through the National Committee (NC), using results from a recent ex ante impact assessment that suggested: (a) continuing ongoing mapping exercises; (b) improving planning and governance structures-for example, the National multisectoral RWH committee- to ensure sustainability and improve coordination; (c) revising the tender documents to ensure the inclusion of activities related to rehabilitation; and (d) deploying digital technologies to expand extension and training outreach on CSA practices to farmers and herders. It will also support technical studies to enhance monitoring of the impacts of RWH activities to avoid unintended outcomes.

For RA 2, the proposed AF will strengthen agri-food sector competitiveness and improve the enabling environment for farmers and the private sector by using innovative approaches to de-risk investments in downstream agriculture value chains. The proposed AF will (a) expand the use of digital technologies to help access marketing and export promotion services in rural and urban areas; (b) increase outreach and use virtual training programs for labor upskilling, upgrading, and job-matching, focused on women and refugees; (c) review compliance with the recent agricultural labor bylaws; (d) improve access to finance and capacity to access markets for producer organizations, particularly farmer cooperatives, and formalized farmer groups for greater value chain participation.

Additionally, the proposed AF will be restructured to address implementation bottlenecks for some Disbursement Linked Result (DLRs) by aligning with current context and country regulations and ambitions. The restructuring will also adjust the Results Framework (RF) and verification protocols and provide additional support to the IPF component to strengthen the MoA's implementation capacity to deliver these results.

2.1 Proposed Changes

The proposed AF will focus on scaling up current DLIs to increase climate resilience and introduce new DLRs to improve competitiveness. The proposed AF (in the amount of US$ 116 million) will scale up ongoing DLIs related to building climate resilience through RWH and skilling up labor as climate change exacerbates the vulnerability of the agri-food system through impacts on increasing water scarcity and it is projected to further decrease per capita water availability by 30 percent by 2040. This is expected to impact agriculture severely, especially since the sector's water demand is expected to increase by up to 20 percent by 2070. The resulting decrease in crop yield could negatively impact food insecurity, disproportionately affecting vulnerable groups, including women, rural communities, and refugees. Additionally, the new DLRs will support increased competitiveness through new virtual reality training centers, e-marketing, and improved farmer aggregations. Concessional grants would further support the employment and livelihoods of vulnerable groups, including refugees. Syrian labor has been an integral part of the agricultural sector in Jordan. Formally, approximately 14 percent of registered refugees are employed in the agri-food sector. However, this number is significantly underestimated, as informality in this sector is high.

2.2 Changes in overall Program financing structure

Changes in overall Program financing structure. The proposed AF will increase the PforR component funding by US$ 90 million and the IPF component funding by US$ 3.5 million. This will increase the PforR financing from US$ 119.5 million to US$ 232 million.

Building climate resilience is at the core of the AF, which will result in a 73 percent increase in the number of people with enhanced resilience to climate risks, from approximately 172,000 to 309,000. To build climate resilience against increasing water scarcity, the proposed AF will scale up (a) sustainable agricultural RWH capacity by 5.7 million m^3 across both community (badia) and farm levels, making water available to an additional 7,950 households in 106 livestock herding communities and 14,000 farming households;[3] (b) support an additional 560 households in adopting water-efficient irrigation technologies; (c) plant an additional 300,000 drought-tolerant tree seedlings; and (d) increase the number of farmers trained in CSA by 7,000, including expanding the farmer training program on climate-resilient technologies by providing training to 2,000 farmers through virtual reality tools.

The proposed AF will further expand the Program's focus on improving the enabling environment for the private sector by supporting product aggregation, access to markets, and export promotion services. The proposed AF will expand agri-food product market access in both rural and urban areas and use innovative approaches to increase investments in market access, value addition, and standards. The Program will support mechanisms for strengthening producer organizations' capacity, including through business training and concessional financing/grants for post-harvest equipment to enable farmer groups (especially women farmer groups) to improve the quality of their products. It will support producer organizations and support produce aggregation and marketing through these groups.

The proposed AF will also support vulnerable groups by fostering an enabling employment environment. The recently adopted agricultural labor bylaws and revised Agricultural Labor Regulations for 2025, published in the Official Gazette (Issue No. 5974), are a significant step toward improving working conditions and strengthening workers' rights; however, compliance and implementation need to be monitored. Compliance monitoring will include how well the implemented agricultural labor bylaws support the employment and livelihoods of vulnerable groups, including refugees. The conditionality of concessional financing on compliance with legislation related to decent employment standards, occupational health and safety, and formalization of employment relations would further contribute to an enabling working environment.

The AF-supported interventions under the PforR will expand activities in all five DLIs of the parent Program. This will encompass increasing funding for the seven parent DLRs. Detailed changes for each DLI and the respective RF targets are as follows:

- **DLI 1: Adoption of sustainable RWH practices.** The allocated financing for DLR 1.2.1 will lead to a 93 percent increase in RWH capacity of cisterns at farm level (870,000 m^3). The target for DLR 1.3.1—Community level RWH practices adopted—will also increase by 53 percent, adding RWH capacity through constructing and rehabilitating hafirs at the community level by 5,300,000 m^3.[4]

[3] While the impact assessment of the support under ARDI Program will be conducted during the midterm review, existing literature demonstrates substantial improvements in livelihoods through RWH investments. For example, the International Center for Agricultural Research in the Dry Areas (ICARDA) demonstrated that, using RWH techniques, barley yields have more than doubled and rangeland and forage shrub yields increased by 1.6 times (Oweis 2016), while the ILO's assessment demonstrated that 70 percent of farmers increased their yield per dunum, and 60 percent of farmers increased their income after cistern construction. The economic and financial analysis of ARDI estimates that livestock production with additional water from community RWH structure will yield an internal rate of return of 54 percent while the net present value (net income resulting from the intervention is estimated at JOD 25 per head or a total of JOD 8,685 per household) while the expected a net income (profit) from cisterns will be JOD 488 per dunum.

[4] 'Hafirs' refers to artificially constructed, circular water catchment basins, used to collect rainwater. Hafirs' capacity will be on average 50,000 m^3, and it will not exceed the maximum threshold of 100,000 m^3.

Activities related to RWH would enhance climate resilience given the extreme water scarcity in Jordan, protecting related employment for vulnerable host communities and refugees engaging livestock herding. Additionally, the landscape restoration efforts of the Badia, consisting of the introduction of Marabs[5], strainers, and gabions, would contribute to ecosystem climate resilience through reduced soil erosion.

- **DLI 2: Innovation and improved performance of crop extension and animal health services.** The target for DLR 2.3.1 (Farmer CSA skills expanded) will add 5,000 trained farmers and refugees to the original target of 3,000. The DLI will ensure access to information on climate-smart practices through improved extension services. The training also targets refugees through the design of training curricula for extension agents (awareness raising and trainings on inclusion) and tailored extension services for vulnerable groups (for example, elements of social service delivery to support refugees and occupational health and safety).
- **DLI 3: Improved public service delivery for value chain development and export promotion.** The proposed AF will increase the target for DLR 3.1 -Adoption of water use efficiency technologies scaled-up—by 40 percent, reaching an additional 560 farmers with water-efficient irrigation technologies to build climate resilience to increasing water scarcity and droughts.
- **DLI 4: On- and off farm employment skills improved including women and refugees.** The target for DLR 4.2.1 (Skills upgrading, and job matching opportunities scaled up) will increase the number of trainees by 60 percent, adding 7,271 trainees to reach a target of 19,393 trainees, including 6,399 women, 6,399 youth, and 3,878 refugees.
- **DLI 5: MoA delivery capacity secured.** The target for DLI 5.1 (Capital expenditure levels aligned with JAP ambition and PforR targets) will increase by 33 percent, which will require capital expenditure for the MoA to increase by JOD 3 million annually starting from 2025. This DLI will enable the MoA to deliver the JAP, which has a strong focus on CSA.

2.3 Introduction of New Disbursement Linked Results

Three new DLRs will be introduced under DLI 2 (Innovation and improved performance of crop extension and animal health services): (a) DLR 2.2.3 (Number of trainees completing virtual reality training in CSA practices) (40 percent women, 30 percent youth) will measure the expansion of the extension service capacity through new training instruments; (b) DLR 2.4.5 (National Agricultural Research Center- NARC Artificial Insemination Center and Laboratory capacitated to meet World Organization for Animal Health (WOAH) Terrestrial Animal Health Code); and (c) DLR 2.4.6 (Number of frozen semen doses produced and used for Artificial Insemination (AI) service (for small and large ruminants) will measure the capacity improvements in animal breeding services.

Five new DLRs will be introduced under DLI 3 (Enabling Services for Value Chain Development and Export Promotion). The new DLRs will enhance the Program's focus on improving farmers' competitiveness and access to markets—rural, domestic, or export—through producer organizations. The Program will align to the new initiative by the GoJ on cooperatives development and introduce and pilot

[5] Marabs" refer to an indigenous water harvesting technique used in drylands, particularly the Jordanian Badia, to capture and store rainwater for agricultural purposes

a productive alliances approach to foster horizontal and vertical market integration, providing financing and TA to link farmers to buyers/off-takers. The primary objective is to increase the quality and quantity of produce by these organizations with the aim of enhancing farmers' incomes. Special attention will be given to disadvantaged groups, including female-only cooperatives, to ensure inclusivity and reduce the gender gap. This process will commence with an assessment and scoring of cooperatives (and farmer groups) to tailor TA and investment support as needed. The DLRs are outlined in sequence as follows:

- **DLR 3.2.4 will introduce a cooperative assessment system, which will assess 100 cooperatives based on their typology**, including climate vulnerability, considering their maturity. The DLR will measure 'number of agricultural cooperatives and formalized farmer groups assessed/ranked by their level of maturity. Cooperative scoring will benchmark cooperatives and establish a clear and objective framework to better target support for the greatest impact while guiding cooperatives through their development stages to maturity.
- **DLR 3.2.5 will assesses whether 'Financing Mechanism[6] for producer organizations developed to support access to financing for domestic and export markets has been designed'**. It will be disbursed after ACC and MoA confirm installation and operationalization of at least one financing window aiming to increase value addition and access to markets for export; urban e-markets; and rural markets for cooperatives, formalized farmer groups, and agribusinesses. Contributions from applicants will also be requested for matching, which can be provided in kind or in cash. Such contributions will be lower for women's groups. The conditionality of climate benefits as an eligibility criterion will ensure increased climate resilience.
- **DLR 3.2.6 will measure the number of staff trained on guiding producer organizations in the preparation of viable climate-informed business plans and the facilitation of Productive Alliance Agreements**. Strengthening the capacity of MoA and ACC will be key in guiding producer organizations in the preparation of viable climate-informed business plans and facilitating Productive Alliance Agreements. Productive alliances will link producers to off-takers where applicable, which would enable their access to markets (Target 10, with at least 20 percent women). Service providers will assist producers with the preparation and implementation of climate-informed business plans; provide training to producer organization members on business and financial management and governance; and, when relevant, offer TA to link producer organizations to off-takers.
- **DLR 3.2.7 will measure the number of producer organizations with viable climate-informed business plans receiving financing through the developed financing mechanism** (at least 10 percent with Productive Alliance Agreements). The Program will aim to reach 100 producer organizations. The financing will incentivize piloting a novel approach and include conditionalities requiring private sector beneficiaries to finance the cost of work permits for refugees engaged as labor under subprojects. Eligibility criteria[7] for accessing financing will include a commitment to have at least 20 percent of the labor hired by producer organizations who would be refugees. In

[6] Financing Framework Mechanisms: The framework comprises different financing mechanisms (including matching grants) that will be formulated according to the financial readiness of producer organizations.

[7] This criterion is also included in the verification protocol for this DLR.

addition, training will be offered to producer organizations on financial literacy, investment planning, post-harvest processing, and modern food safety standards, which, together with the financing for post-harvest and value addition technologies, should enable them to more effectively enter export markets, e-markets, and rural produce market fairs.

- **DLR 3.2.8 assesses the success of the Financing Mechanism in supporting access to markets by measuring the number of recipient producer organizations that succeeded in selling their products on targeted markets** (Target 80, at least 20 percent e-markets and at least 10 percent export markets).

The proposed AF will also strengthen the capacity of public laboratory services on food safety to protect public health and promote exports by introducing five new DLRs under DLI 3.4. Two laboratories on food safety and biological control at the MoA and National Agricultural Research Center (NARC) will be capacitated to meet international quality standards (DLR 3.4.3), bringing the total number of laboratories supported to three. DLR 3.4.4 will measure the number of seed lots tested for ISTA[8] certification. DLR 3.4.5 will measure the number of biological plant protection technologies developed and registered for use in horticulture production and DLR 3.4.6 will measure the use of one or more Biological Control Agents (BCA) among horticulture producers (percentage). Lastly, DLR 3.4.7 will measure the number of consignments certified to meet EU[9] maximum residue limits (MRL).

2.4 Restructuring of Existing Disbursement Linked Indicators

Three DLIs will be restructured (i) the verification protocols of DLI 1.2 (Community level RWH practices adopted) will be refocused from tracking the funds for the implementation of landscape restoration activities to establishing the requirement that a minimum of 40 percent of hafirs (based on needs assessment) will need to be complemented by landscape restoration contributing to climate resilience; (ii) DLI 2.4 (Animal Health service provision capacity expanded), focusing on small ruminants' vaccination, will be adjusted to align with the wider national ambition for managing foot-and-mouth disease (FMD), moving from stage two to stage three in the Progressive Control Pathway for Foot and Mouth Disease (PCP-FMD); (iii) the timeline for delivery of DLRs under DLI 3.3 (Traceability systems in place for key commodities) will be delayed by two years, as additional preparatory work is required to put the system in place (new DLR 3.3.2). In turn, the expected number of commodity trials will increase from three to five (now DLR 3.3.3).

Program Action Plan: Nine Program actions will be added to the plan including three related to E&S aspects. (i) Expanding the Stakeholder Engagement Plan (SEP) under the IPF component to also cover the PforR component of the operation; (ii) MoA to apply existing site level E&S screening and ESHS monitoring checklists for RWH structures in Badia (Hafirs); (iii) Strengthening inclusion, labor, and gender monitoring.

IPF: Increase of IPF budget by US$ 3.5 million would enable the continuation of Project's essential activities as the IPF's current commitments reached US$ 5.5 million out of existing US$ 5.5 million

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[8] ISTA = International Seed Testing Association.

[9] EU = European Union.

allocation. No additional components will be added. Activities under existing components will be further expanded and strengthened:

- **Component 1**: **JAP Systems Building and Implementation Support:** JAP systems building and implementation support through the DU would continue providing expertise and support to MoA for JAP implementation; it would be staffed with appropriate expertise in the following areas, inter alia: agri-food sector, financial and procurement management, monitoring and evaluation, communication as well as environmental and social standards with expertise on occupational health, child labor and refugee inclusion issues. Additionally, the procurement team would review the tender documents for the RWH and propose the improved tender procedures for RWH committee's review. The coordination with the MoEnv and MoA on RWH will be further strengthened.
- **Component 2**: **Inter-Ministerial Coordination and Stakeholder Engagement:** Inter-Ministerial Coordination and Stakeholder Engagement would continue supporting MoA in: (i) strengthening mechanisms for inter-ministerial and agency coordination at a technical level, including the Ministry of Planning and International Cooperation (MoPIC), Ministry of Water and Irrigation (MWI), MoEnv, ACC, etc.; ii) collecting and analyzing the lessons learned from the International Labour Organization (ILO), United Nations High Commissioner for Refugees (UNCHR), and other refugee-related agencies and inform new regulations or policies as well as compliance with agricultural bylaws; and iii) stakeholder consultation mechanisms (private sector, civil society, producer and farmer organizations).
- **Component 3: Capacity Development for Implementing Agencies:** This component will continue providing capacity development for implementing agencies with increasing focus on procurement and environmental and social safeguards. In addition, the component will support the MoA to establish appropriate and sustainable financing mechanism for cooperatives. This will include: (i) carrying out necessary cooperative sub-sectors analysis and country case studies to inform selection of appropriate financing mechanisms, (ii) development of a roadmap for designing selected mechanism.
- **Component 4**: **Contingent Emergency Response Component**.
- **Component 5: Fast-tracked Enabling Activities for Program Delivery** would support the financing of upstream enabling activities to accelerate the PforR implementation and remove initial bottlenecks towards the achievement of DLIs and support the digital and physical operating environments (e.g., digital software, equipment) needed to achieve DLIs.

Duration: The proposed AF will be accompanied by a two-year extension of the operation from June 30, 2029, to June 30, 2031.

Program Boundaries: No changes to the parent Program boundaries.

The PDO: remains unchanged "strengthen the climate resilience and enabling environment for agriculture development in selected value chains in Jordan"**.** The overall strategic relevance and technical soundness of the Program is predicated on the JAP's recognition of the most significant strategic challenges Jordan's

Agriculture sector is facing and the identification of a comprehensive set of costed interventions across public, private sectors and international partners with the potential to lay the foundations to significantly shift the sector's performance.

3. IMPACTS, RISKS AND BENEFITS OF THE PROPOSED AF AND RESTRUCTURING

The environmental and social risk rating for the proposed AF and restructuring of the ARDI Program remains Substantial. The proposed adjustments to the DLIs and DLRs do not significantly alter the overall design or scope of the Program, and the risks identified in the parent ESSA continue to be relevant. This proposed AF provides an updated assessment to reaffirm the validity of previously identified risks and benefits, while also evaluating new risks and opportunities introduced by AF-supported activities. It further examines changes in the borrower's environmental and social systems, reviews the borrower's performance to date, and outlines recommendations to strengthen system implementation under the proposed AF and restructuring. In addition, the proposed AF will support the revision and enhancement of environmental and social instruments under the IPF component. This includes updating the Environmental and Social Commitment Plan (ESCP) and expanding the SEP. The SEP was revised using the simplified template for moderate-risk projects and will be finalized during implementation to ensure it adequately covers both the PforR and the IPF components.

3.1 Implementing Agencies of the Project

The implementing agencies (IAs) remain unchanged from the parent Program, and no modifications have been made to the existing institutional arrangements. The three IAs are: MoA, a governmental and public sector institution responsible for formulating and advancing policies and strategies for Jordan's agricultural sector; the ACC; and the NARC, both of which operate under the MoA's umbrella. The implementing agencies have continued to make progress in strengthening their E&S systems. The actions outlined in the parent ESSA and this Addendum are considered sufficient to support and further these efforts. Progress includes improved compliance with E&S regulations and the implementation of recommended measures to effectively manage E&S risks. Continued efforts will be required to further enhance the institutional capacities of the implementing agencies.

Table 2. Key Implementation Agencies

Result Area	Results	Responsible IAs	Directorate(s)	Partnering institutions
RA 1.1	▪ Rainwater Harvesting	MoA	▪ Water Harvesting Directorate, Projects Management Directorate, ▪ Pastures Directorate ▪ Lands and Irrigation Directorate	MoWI, JVA, MoEnv
RA 1.2	▪ Extension System Performance	MoA NARC	▪ Directorate of Training and Awareness of Farmers and NARC ▪ Veterinary Directorate	NARC, World Organization for Animal

	▪ Veterinary System Performance ▪ Digital tools, including early warning system developed, e.g., frost alert ▪ Performance of nurseries improved		▪ Plant Production Directorate, Olives Unit	Health (OIE), MoA, Agriculture Risk Fund, Ag tech ecosystem, Private sector
RA 2.1	▪ Water use efficiency financing instrument ▪ Traceability System development ▪ Public services for value chain development ▪ Sanitary and Phytosanitary (SPS) and seed certifications	ACC MoA NARC	▪ Loans department ▪ Quality and Tracking Directorate ▪ Marketing Directorate ▪ Prevention and Plant Protection Directorate	MoWI, Customs, Jordan Food and Drug Authority (JFDA), Ministry of Commerce, NARC, Jordan Enterprise Development Corporation (JEDCO), MoPIC, Jordan Social Development Fund (JSDF), Jordan Standards and Metrological Organization (JSMO)
RA 2.2	▪ Capacity Development in the Agrifood Sector	MoA	▪ Technical Committee ▪ with the participation of relevant Directorates	Technical and Vocational Skills Development Commission (TVSDC), Farmer and private sector associations, civil society;

3.2 Environmental and Social effects

3.2.1 Environmental Effects

The Environmental and Social Risks of the proposed AF and restructuring are considered Substantial. This rating reflects the performance of the parent Project, the continued relevance of risks and impacts identified under the parent Program, and the nature of the new activities and restructuring under the proposed AF. The Program's PDO remains unchanged, and the project boundaries are consistent with those of the parent Program. Similarly, the Result Areas and implementing agencies remain the same. The following sections provide a detailed discussion of the potential environmental and social risks, impacts, and benefits associated with the proposed AF and restructuring.

The proposed AF of ARDI offers numerous environmental benefits while also presenting certain risks that should be effectively managed. The expected benefits and potential risks are similar to those of the parent Program. The interventions which will be supported by the proposed AF aim to address water scarcity, enhance agricultural productivity, and improve resilience to climate change. However, their implementation requires adequate planning and implementation to mitigate potential environmental impacts, ensuring sustainability and long-term benefits for communities and ecosystems. Below is a detailed summary of the key impacts, risks, and benefits associated with the proposed AF.

Environmental Benefits:

- **Enhanced Water Availability:** RWH significantly increases water availability for irrigation, livestock, and domestic use, particularly in areas with limited groundwater resources. By capturing seasonal rainfall, these systems help communities store water that would otherwise be lost to evaporation or runoff. This reduces reliance on overexploited groundwater and improves water security in arid and semi-arid regions.
- **Support for Ecosystems:** Properly designed water harvesting methods can recharge groundwater reserves, which in turn support natural ecosystems and biodiversity. These systems also mitigate desertification by providing moisture to sustain vegetation in arid regions. Additionally, the availability of water helps maintain habitats for wildlife, contributing to the overall ecological balance of the area.
- **Climate Resilience:** RWH systems provide a critical buffer against the impacts of climate change, such as prolonged droughts and reduced rainfall. These interventions help rural communities adapt to water scarcity by increasing access to water during dry periods. The systems also stabilize agricultural production by ensuring a more reliable water supply for crops, reducing vulnerability to climate variability.
- **Eco-Tourism and Biodiversity:** Hafirs provide roosting areas for migratory birds. This creates opportunities for eco-tourism by attracting bird watchers and nature enthusiasts.

Environmental Risks:

- **Localized Environmental Risks:** The construction and operation of RWH structures, such as hafirs and cisterns, can lead to sediment accumulation, soil compaction, and habitat disruption. These facilities may also generate construction waste and require the clearing of land, which could impact local flora and fauna. Effective planning and mitigation measures are necessary to minimize these risks.

- **Water Quality Risks:** Improperly managed water harvesting structures may lead to water stagnation, increasing the risk of waterborne diseases and mosquito breeding. Contamination of harvested water due to runoff carrying pollutants, sediment, or agricultural chemicals is another concern. This could pose risks to ecosystems and local communities that rely on the water. Regular monitoring and maintenance of the structures are essential to ensure water quality remains suitable for its intended use.
- **Impact on Biodiversity and Natural Habitats:** Expanding water harvesting facilities, particularly in ecologically sensitive areas, could alter habitats and disrupt local biodiversity. Changes in water availability may favor some species over others, introduce invasive species and potentially leading to an imbalance in the ecosystem, particularly in sensitive ecological areas like the Badia region. Careful site selection, monitoring and integration of biodiversity conservation measures are critical to mitigating these impacts.
- **Soil Erosion and Runoff:** The concentration of RWH systems can increase the rate of soil erosion around the structures due to higher water flows. Runoff from the systems may carry sediment and nutrients away from agricultural fields, potentially degrading soil quality in the surrounding areas. Regular maintenance, such as sediment removal and erosion control measures, is necessary to maintain the effectiveness and sustainability of the water harvesting systems.

3.2.2 Social Effects

The proposed AF and restructuring of the ARDI Program aim to enhance climate resilience, increase competitiveness, and support vulnerable groups within the agricultural sector. The Program is designed to build on existing institutional arrangements and scale up efforts to improve agricultural practices, infrastructure, and market access. By doing so, it seeks to provide significant social benefits, including improved livelihoods, increased income opportunities, and enhanced food security for rural communities.

However, alongside these potential benefits, the proposed AF also presents certain social risks that need to be carefully managed to ensure equitable and inclusive outcomes. These risks include the potential exclusion of certain vulnerable groups, increased pressure on local resources, community displacement and livelihood disruption, social tensions and conflicts, gender inequality, health and safety concerns, institutional capacity challenges, and economic disparities, and others.

Social benefits

- **Enhanced Extension Services:** The proposed AF will finance the increase in extension service capacity, which includes the establishment of virtual reality training centers and programs. This initiative will significantly improve the skills and knowledge of farmers, leading to better agricultural practices and increased productivity. The extension service capacity increase will involve:
  i. **Virtual Reality Training Centers**: Establishment of three training centers equipped with virtual reality tools to provide training for farmers on good agricultural practices. These

training centers will not require any physical construction or renovation, minimize the E&S risks and impacts and make implementation more efficient and cost-effective.

ii. **Comprehensive Training Programs**: Implementation of a detailed extension agent training plan, including a needs assessment to highlight capacity gaps of existing staff and a detailed training schedule outlining training of trainers (ToT) timings and locations.

iii. **Innovation Adoption Survey**: Conducting surveys to assess whether farmers educated through season-long training processes have developed interest in the promoted innovations, trialed them on their own plots, and decided to continue practicing the innovations in subsequent seasons.

- **Value Chain Development and Export Promotion:** Strengthening value chain development and export promotion services will enhance market access for farmers, potentially increasing their income and economic stability. Key components include:

  i. **Market Intelligence Mechanisms**: Establishment of a multi-disciplinary advisory group comprised of key public entities, private sector representatives, farmer associations, development partners, and international experts. This group will build a process for obtaining and analyzing market information on trends and demand for products that are grown or could be grown in Jordan.

  ii. **Regulatory Reforms**: Implementation of regulatory reforms to improve the enabling environment for agribusinesses, facilitating more sustainable agri-food value chain development and enhancing competitiveness.

  iii. **Export Promotion Services**: Development of e-marketing mechanisms and traceability systems to enhance market access and improve the business-enabling environment, leading to increased income generation opportunities for farmers and farmer cooperatives.

- **Rural Products Market and Marketing Strategy:** Developing a rural products market and marketing strategy will provide farmers with better opportunities to sell their products, thus improving their livelihoods. This strategy includes:

  i. **Rural Product Exhibition Markets**: Encouraging rural women and cooperatives to showcase their products in rural product exhibition markets, providing them with better market access and opportunities to sell their products.

  ii. **Skills Training Programs**: Aiming to have 40 percent of participants in the skill-matching program be women, further empowering them and enhancing their economic stability.

  iii. **Market Opportunity Diagnostics**: Conducting analytical reports to map current operators and infrastructure available for relevant post-harvest value chain activities, identify gaps, and review international approaches for attracting private sector investment in energy-efficient post-harvest value chain development.

- **Impact on Vulnerable Groups:** The additional financing will scale up ongoing DLIs related to building climate resilience through RWH and skilling up labor. This is crucial as climate change exacerbates the vulnerability of the agri-food system, particularly affecting water availability and crop yields. The resulting decrease in crop yield could negatively impact food security, disproportionately affecting vulnerable groups. The new DLIs will support increased competitiveness through new virtual reality training centers, e-marketing, and improved farmer aggregations. Concessional grants will further support the employment and livelihoods of vulnerable groups, including refugees.

- **Employment and Livelihoods:** Syrian labor has been an integral part of the agricultural sector in Jordan. Formally, approximately 14 percent of registered refugees are employed in the agri-food sector, although this number is significantly underestimated due to high informality in the sector. The additional financing will provide concessional grants to support the employment and livelihoods of vulnerable groups, including refugees.

- **Social Inclusion and Equity:** The Program's restructuring will continue to emphasize social inclusion and equity. The additional financing will support activities that promote equitable access to Program benefits, giving special attention to vulnerable groups. This includes enhancing the competitiveness of the agri-food sector by improving the agribusiness environment and making the sector more attractive for investment. The parent Program was evaluated as gender tagged, and the proposed AF follows the same gender results chain with gender targets set in the RF. The proposed AF will support targeted activities designed for women and aimed at closing specific gender gaps. Activities focused on women and explicitly designed for their particular needs have designated monitoring indicators. The RF includes gender-disaggregated indicators to measure progress on gender targets. Gender mainstreaming, youth and building resilience to climate change are inherent features of the parent Program and are mainstreamed in all DLIs.

Social risks:

The proposed AF and restructuring are also associated with potential social risks including:

- **Access to Public Agricultural Services and Skills Training:** One of the primary social risks associated with the proposed AF and restructuring is the potential exclusion of small and medium farmers, households, women, youth, and refugees from benefiting from improved public agricultural services or skills training. These groups often face challenges due to their remote locations, lack of access to information, and other socio-economic barriers. The proposed changes in the Program, which include upscaling existing DLIs and DLRs and introducing new ones, aim to enhance agricultural resilience and value chain development. However, without targeted measures, there is a significant risk that these improvements may not reach the most vulnerable populations.

- **Exclusion of Vulnerable Groups:** There is a significant risk that vulnerable groups, such as women, rural communities, and refugees, may not be adequately included in the Program's benefits. This exclusion can lead to increased inequality and social tension if these groups feel marginalized or excluded from the Program's benefits. Marginalization can result in these groups not receiving equitable access to resources and opportunities, which can exacerbate existing social inequalities.

Additionally, perceived or actual exclusion can lead to social tensions and conflicts within communities, undermining social cohesion.

- **Increased Pressure on Local Resources:** The scaling up of agricultural activities and infrastructure development could put additional pressure on local resources such as water and land. Overuse of these resources can lead to depletion, affecting the sustainability of local ecosystems. Increased agricultural activities may also lead to environmental degradation, including soil erosion, deforestation, and loss of biodiversity. Furthermore, competition for scarce resources can lead to conflicts between different user groups, such as farmers and local communities.

- **Gender Inequality:** There is a risk that gender-focused activities may not be effectively implemented or monitored, leading to insufficient progress in closing gender gaps. If women do not receive adequate support and opportunities, they may continue to face barriers to accessing resources, training, and economic opportunities, perpetuating gender inequality in the agricultural sector. This can undermine the Program's goals of social inclusion and equity.

- **Appropriation of Program Benefits:** Another critical social risk is the potential appropriation of Program benefits by large established farmers, particularly in the livestock sector. The restructuring includes the introduction of new DLIs/DLRs aimed at improving livestock management and productivity. Without proper oversight, these benefits could be disproportionately captured by larger, more established farmers, exacerbating existing inequalities and leaving smaller farmers and vulnerable groups at a disadvantage.

- **Labor and Working Conditions:** The proposed AF and restructuring also pose social risks related to labor and working conditions for agricultural workers within on- and off-farm beneficiary operations. The proposed TA activities to support agricultural productivity and resilience may increase labor demand, potentially leading to poor working conditions if not properly managed. Agricultural workers, particularly those in vulnerable groups, may face risks such as inadequate wages, long working hours, lack of safety equipment, and exposure to hazardous conditions.

- **Stakeholder Engagement:** Effective stakeholder engagement is crucial for the successful implementation of the proposed AF and restructuring. The proposed changes involve significant modifications to the Program's scope and activities, necessitating continuous stakeholder engagement to ensure buy-in and address concerns. Stakeholders, including farmers, community leaders, government agencies, and non-governmental organizations, need to be actively involved in the decision-making process to ensure that their needs and concerns are addressed.

3.3 Strategic Environmental and Social Assessment (SESA) of the NRWHP

The parent ESSA required the preparation of a Strategic Environmental and Social Assessment (SESA) for the NRWHP. The parent ESSA outlined several key requirements for the preparation of the SESA during the implementation of the NRWHP to ensure environmental sustainability and social inclusivity.

These requirements included a comprehensive assessment of potential environmental and social impacts, such as effects on water availability, land degradation, water quality, social conflict, and displacement. The ESSA emphasized the importance of active stakeholder engagement, ensuring that local communities, farmers, civil society organizations, and other relevant stakeholders were involved in participatory planning and decision-making processes. Additionally, the ESSA called for the strengthening of legal and institutional frameworks, proposing specific mitigation measures to address negative impacts, and establishing robust monitoring and evaluation mechanisms to track the plan's impacts and adapt as necessary.

Furthermore, the ESSA highlighted the need for capacity building among government agencies, farmers, and local communities to effectively implement and manage RWH schemes. It required the SESA to identify capacity gaps and propose measures to enhance skills and knowledge through training programs, technical assistance, and institutional strengthening initiatives. The ESSA also mandated that the SESA ensure alignment with national policies and international best practices for environmental and social management, reviewing relevant standards and guidelines to ensure compliance. By adhering to these requirements, the SESA aims to ensure that the NRWHP is implemented in an environmentally sustainable and socially inclusive manner.

3.4 Findings from the SESA

The SESA has been finalized and provides an account of comprehensive evaluation of the potential environmental and social impacts associated with the NRWHP. The assessment identifies both positive and negative impacts, along with recommended mitigation measures to ensure the plan's success and sustainability.

Positive Impacts: The NRWHP is expected to bring several significant positive impacts. Firstly, it aims to enhance water availability for agriculture and livestock, which is crucial for improving food security and livelihoods in Jordan. By promoting sustainable RWH practices, the plan also seeks to build resilience to water scarcity, a growing concern due to climate change. Additionally, the plan includes measures for rangeland restoration, which can improve the health and productivity of grazing lands. This is particularly important for maintaining the ecological balance and supporting the livelihoods of pastoral communities. Moreover, the NRWHP is anticipated to create employment opportunities in the agricultural sector, especially for vulnerable groups such as women, youth, and refugees. This can contribute to economic stability and social inclusion. The plan also aims to enhance food safety through improved seed certification and pesticide management, ensuring that agricultural produce meets safety standards and reduces health risks.

Negative Impacts: Despite the numerous positive impacts, the SESA also highlights potential negative impacts that need to be addressed. One of the primary concerns is the potential for land degradation if RWH schemes are not properly implemented. This is particularly critical in areas with limited soil cover, where improper practices can lead to soil erosion and reduced land productivity. Additionally, there is a risk of water contamination if RWH structures are not designed or maintained correctly, posing threats to human health and the environment. The plan could also lead to social conflict if not implemented in a participatory and equitable manner, especially in regions with competing water demands. Ensuring that all stakeholders are involved and that their needs are considered is essential to prevent conflicts. Furthermore, there is a potential for displacement if the plan does not adequately consider the needs of vulnerable groups, which could exacerbate social inequalities.

3.5 Mitigation Measures

To address these potential negative impacts, the SESA outlines several mitigation measures. Strengthening the legal and institutional framework is crucial, with clear regulations and guidelines for RWH schemes, including those related to land acquisition, water quality, and environmental protection. Promoting participatory planning and implementation is also emphasized, ensuring that local communities are involved in the decision-making process to guarantee the sustainability and equitable distribution of benefits. Enhancing monitoring and evaluation mechanisms is another key recommendation. Regular monitoring of the environmental and social impacts of RWH schemes will allow for timely adjustments and improvements. Building the capacity of government agencies, farmers, and communities to effectively implement and manage RWH schemes is also essential for the plan's success.

The SESA highlighted that the NRWHP's impact on water availability would be managed through a comprehensive assessment of RWH needs and planning. This included a national Geographic Information System (GIS) mapping and planning exercise to analyze existing and cumulative water balance impacts at the watershed level. The ex-ante impact assessment aimed to avoid negative impacts on downstream water users by determining a sustainable density of RWH capacity per square kilometer. Additionally, the Program emphasized the importance of monitoring and managing the increased availability of water to prevent unsustainable use for irrigation.

4. ENVIRONMENTAL AND SOCIAL MANAGEMENT SYSTEMS

4.1 Policy and Legal Framework

This section will cover any updates or changes in the Borrower's environmental and social management systems, regulatory regimes, capacity to manage risks and impacts resulting from the Program, as well as performance of the systems to date.

There have been no major changes to the regulatory frameworks governing environmental and social risks and impacts associated with the Program since the parent ESSA was issued. The ESSA of the parent Program included an assessment of the existing E&S regulatory systems as well as the main gaps within these systems. Below are some recent developments and a baseline description of the regulatory framework associated with new activities and DLIs under the Program.

In general, the environmental and social assessment and management system includes an adequate legal framework to guide environmental and social impact assessment, mitigation, management, and

monitoring for the PforR expected activities. The system functions with clear articulation of institutional responsibilities for different entities, and regulatory bodies have capacity to operate the system to a reasonable degree of efficacy.

Changes in the applicable local and national environmental and social regulatory requirements which became effective since the approval of the ESSA for the parent Program include:

- **Amended Environmental Classification and Licensing System (69-2022):** According to the latest amendment to regulation 69-2022, this regulation should be read along with the Amendment regulation No. 97 for the year 2020. The amendments are limited to revising and updating the four tables on classification criteria and activities risk rating which present grouping of different activities under each of the four environmental risk categories [provided in Annex No. (1): Classification Criteria and Activities Tables] and revising and updating the conditions for selecting sites for development activities [provided in Annex No. (1) to the regulation], which defines the minimum distance required between proposed activities and sensitive receptors and pollution sites.

- **Regulation for Non-Hazardous Solid Waste Management System (44-2022): This new regulation was issued in accordance with Article (31) of the Waste Management Framework Law No. (16) of 2020**, and it replaces the regulation for solid waste management system No. 27 of 2005 and the instructions of Solid Waste Management for the year 2019. Regulation 44-2022 clarified responsibility boundaries for non-hazardous waste generators and non-hazardous waste management authorities and obliged the authorities responsible for non-hazardous solid waste management to develop a plan for sorting waste from the source. The regulation also assigns the responsibility for its application within development and free zones to the authorities responsible for managing these zones and in coordination with the relevant authorities. The provisions of the system excluded the domestic sector (households) and non-hazardous by-products, as defined by the regulation, from the obligation to the application of the provisions of this new regulation.

  In addition, the regulation explained the categorization of the sorting facilities based on type of waste separation (manual, mechanical, semi-mechanical) and listed the general conditions for operating non-hazardous solid waste sorting, material recovery and final disposal (landfill) facilities. The regulation emphasized the necessity to develop plans for the collection and transportation of waste in emergencies and exceptional circumstances, with the provision of the necessary mechanisms, equipment/machinery to implement these plans, and with appropriate measures taken to ensure that hazardous waste is not mixed with non-hazardous waste to preserve health. The authorities responsible for managing solid waste dumps and landfills are obligated "not to receive hazardous waste, to allow unauthorized waste pickers to pick them up, to record the tonnages that are finally disposed of, and to surround the landfill facilities with a fence to prevent the entry of animals, and other requirements."

As instructed by the new regulation, the competent non-hazardous waste management authorities must take the necessary measures to reach the principle of self-sufficiency and within its areas of competence by providing an integrated and sufficient network of recovery and treatment facilities, and the final disposal of waste. It is also obligated to ensure the provision of adequate measures to comply with the occupational health and safety requirements and applicable legislation issued by relevant authorities in the kingdom.

Article 14 of the new regulation stipulates that the Minister shall issue the necessary instructions for the implementation of this system, including:

i. Preparing non-hazardous solid waste management plans.
ii. Safe use and rehabilitation of environmentally unsafe waste dumps.
iii. Technical and environmental requirements for establishing and operating solid waste transfer stations.
iv. Technical and environmental requirements for establishing and operating non-hazardous waste sanitary landfills.
v. Technical requirements and specifications for the machinery/equipment used in streets cleaning inside municipalities and the capital of Amman.
vi. Technical requirements for the establishment and operation of the associated storage facilities for non-hazardous solid waste.
vii. Technical requirements for non-hazardous solid waste collection operations.
viii. Plans for the management of agriculture non-hazardous solid waste.

- **Regulation for Hazardous Materials and Hazardous Waste Management System (68-2020 and its amendments for the year 2022):** The amendments made to Regulation No. 68-2020 is limited to including representatives of the Ministry of Interior and the Ministry of Transport to the Technical Committee for the management of hazardous materials and waste.

- **Bylaw on Occupational Safety and Health System and Prevention of Occupational Hazards and Prevention of Occupational Hazards in Institutions No. (31) of (2023):** This Bylaw establishes a comprehensive framework aimed at ensuring the safety and health of employees within institutions. This bylaw mandates the implementation of systematic measures to identify, assess, and mitigate occupational hazards. It emphasizes the importance of creating a safe working environment through regular risk assessments, the provision of appropriate safety equipment, and continuous monitoring of workplace conditions. The bylaw also outlines the responsibilities of employers in maintaining safety standards and ensuring that employees are adequately trained and informed about potential hazards.

- **System for the formation of occupational safety and health committees and the appointment of supervisors in institutions No. (33) of (2023):** This Bylaw complements the aforementioned bylaw by detailing the organizational structure required to enforce occupational safety and health regulations. It mandates the establishment of safety and health committees within institutions, which are responsible for overseeing the implementation of safety measures and ensuring compliance with regulations. These committees are to be composed of representatives from both management and employees, fostering a collaborative approach to workplace safety. Additionally, the bylaw specifies the criteria for appointing safety supervisors, who are tasked with monitoring compliance, conducting safety audits, and providing guidance on best practices in occupational health and safety.

- **Public Procurement Bylaw (8-2022):** The enactment of the new public procurement bylaw No. 8 of 2022 has brought significant improvements to the legal and institutional framework as well as to procedural aspects of public procurement. The bylaw is generally consistent with international good practices, and its scope covers all government entities. The governance of the public procurement system is secured through the establishment of the Procurement Policy Committee (PPC), the regulator, and the Procurement Complaint Committee (PCC), which advises as an independent party on complaints raised before contract award. Public Procurement is processed through two main central procurement departments; (i) The General Tender Department (GTD) in Ministry of Public Works and Housing (MoPWH), which processes the procurement of works and engineering services; and (ii) Government Procurement Department (GPD) in MoF which processes the procurement of goods, medicines, equipment, consulting services and non-consulting services.

  The National Standard Procurement Documents for works (small and large), goods, consultant services, and non-consulting services were developed with the support of the WB in the context of the Multi-Donor Trust Fund (MDTF). These documents are aligned with international standards and the WB procurement principles, provide modern procurement methods, open a window for sustainable procurement (with the possibility of applying the SME/gender/environment considerations and policies), articulate the complaint mechanism, and provision for settlement of disputes (amicable and arbitration). The standard bidding documents (SBDs) for works and goods have been reviewed and validated by the PPC, while the rest are still being reviewed. E-procurement system (JONEPS) is deployed following a well-structured deployment plan). JONEPS is already used by the two2 main central procurers: Government Tender Department (Works) and GPD (Goods).

  Also, a capacity-building strategy has been endorsed and is being implemented (Jun 2024), and Small and Medium Enterprises (SME) policy and a green procurement policy have been drafted and endorsed by the Prime Minister Office in Dec. 2024. Furthermore, the JONEPS is being gradually deployed for procurements process below GTD and GPD thresholds. The government developed JONEPS deployment plan shall cover 109 agencies (excluding public universities, hospitals, municipalities). The deployment is covering both categories' Goods and Works. Because of business needs, all 109 agencies shall be using JONEPS for goods, and 81 agencies for Works.

  The procurement team at MoA has been trained in using the new SBDs and is starting to use them under the Govt. budget and parent Program in WB-IPF financing for national bidding, after the addition of an annex to fully comply with the WB requirements. National open competitive procurement meets most of the WB Procurement Regulations and procedures requirements in terms of F&C clauses, eligibility, and E&S requirements as per para 5.4 of Procurement Regulations since December 26, 2024. Also, the annual procurement plan of the year 2024 published in JONEPS, while the PP of the year 2025 is not published yet, and the procurements are not processed through JONEPS.

- **Bylaw on the Management of Nonhazardous Agricultural Wastes (2024):** This bylaw was prepared by the Ministry of Agriculture in Jordan and approved by the Cabinet on May 12, 2024, establishes a comprehensive framework for the sustainable management of agricultural waste. The bylaw aims to promote environmentally sound practices by outlining procedures for the collection, treatment, recycling, and disposal of nonhazardous agricultural waste. It encourages waste reduction and resource recovery to support agricultural sustainability while minimizing environmental and health impacts.

4.2 Borrower Performance and Track Record

The E&S performance of the Parent Program, including the IPF component, is currently rated as *Moderately Satisfactory*. This rating reflects delays in hiring E&S consultants, slow delivery of certain PAP actions, and limited institutional capacity within the MoA. However, MoA has made notable progress in strengthening its E&S management systems, with several key milestones achieved. These include the integration of health and safety specifications into procurement documents for RWH, refurbishment of MoA nurseries, strategic collaboration with the Ministry of Environment on pesticide container disposal, and the implementation of a national plan for monitoring residual pesticides in fresh produce (2024–2026). A bylaw for managing non-hazardous agricultural waste was approved in May 2024, and regulations for managing animal manure were issued in August 2024.

Several PAP actions remain underway and have revised deadlines under the AF. These include formalizing E&S screening procedures by the ACC, enhancing the Program's GM, advancing collaboration with the MoL on decent work and grievance referrals, and finalizing a Child Labor Action Plan. The Strategic Environmental and Social Assessment (SESA) for the RWH Plan has been finalized, and guidelines for managing RWH structures are expected by January 2026. Under the IPF component, MoA has assigned a team of 11 staff and a focal point at ACC to support E&S and occupational health and safety (OHS) management. While an OHS consultant was hired in October 2024 for a short-term assignment, recruitment of an E&S risk management consultant is still underway. MoA continues to explore capacity-building options, including training by the World Bank and participation in external learning events. Although MoA has prior experience with the Bank's Environmental and Social Framework (ESF), further support is needed to fully build the capacity of its E&S staff and ensure timely implementation of remaining PAP actions.

4.3 Hands-on Extended Implementation Support (HEIS)

Due to the protracted process of recruiting the E&S specialists required under the IPF component—and the broader challenges faced by the MoA in securing qualified E&S expertise—the Ministry, through its Delivery Unit, formally requested Hands-on Extended Implementation Support (HEIS) from the World Bank for the

ARDI Program. In response, a HEIS consultant was hired in February 2025 and has since been actively supporting the implementation of E&S requirements across the Program.

The consultant's role includes assisting MoA and other implementing agencies in building and strengthening staff capacity until adequate E&S resources are in place. The primary objective is to enhance MoA's ability to assess and manage E&S risks and impacts, while ensuring compliance with the World Bank's environmental and social standards. This support encompasses hands-on guidance for meeting E&S requirements, preparing and updating E&S instruments, integrating E&S provisions into procurement documents, onboarding and training new E&S staff, and reinforcing stakeholder engagement and GMs. Ultimately, the HEIS support is designed to promote a more resilient and sustainable agricultural sector in Jordan.

5. STAKEHOLDER ENGAGEMENT DURING THE ESSA ADDENDUM PREPARATION

The environmental and social risks and benefits associated with the proposed AF, Program restructuring, and scale-up have been reviewed and consulted through the parent ESSA of the parent Program. The ESSA was widely consulted with external stakeholders, including representatives from various implementing agencies, civil society organizations (CSOs), women's groups, and private sector associations. Throughout implementation, the MoA has actively collaborated with other implementing agencies and public institutions to advance the Program's DLIs and PAP commitments.

Further consultations were conducted in relation to the development of the National Rainwater Harvesting Plan (NRWHP) for 2024–2030, which mandates public engagement and the inclusion of vulnerable groups, particularly women. Additionally, the SESA for the NRWHP has been finalized, incorporating feedback from multiple stakeholder consultations, including beneficiaries of RWH interventions. A summary of stakeholder engagement activities is included in the SESA.

The MoA has been actively engaging with various stakeholders to ensure a thorough and inclusive process and enhance agricultural practices and address sector challenges. These stakeholders comprised the main implementing agency under the project: MoA, ACC, and the NARC, cooperatives, municipalities, women associations, etc.

Throughout 2024, the MoA led a series of targeted consultations and workshops to strengthen agricultural practices and stakeholder collaboration. In February, a workshop introduced water-saving technologies to farmers and key institutions, resulting in an adaptive mechanism to improve access and uptake. In March, MoA convened stakeholders involved in the Farmers Register to address data protection and inclusion of vulnerable farmers, leading to system improvements. In May, a session on OHS brought together civil society, labor authorities, and the ILO to develop a cooperation framework and initiate an OHS guidelines manual.

Further efforts included a high-level workshop in September focused on empowering producer organizations—particularly women-led cooperatives—by enhancing access to finance and project benefits under DLI 3. In October, MoA and partners such as ILO, Vocational Training Center (VTC), TVSDC, and the Agricultural Engineers Association met to align training programs with labor market needs, setting

2025 priorities and drafting a training plan. In November, MoA engaged with livestock groups and cooperatives in Badia to strengthen RWH and solar PV initiatives, culminating in a management agreement to support sustainable water use. These initiatives reflect MoA's commitment to inclusive, sustainable, and coordinated agricultural development.

6. PROGRAM GRIEVANCE MECHANISM (GM)

The parent ESSA assessment of the GM identified several areas for improvement to enhance its effectiveness and accessibility. Key recommendations include conducting a Training Needs Assessment and Outreach Plan to raise awareness among women, refugees, and youth, and disclosing clear eligibility criteria. The MoA is also tasked with developing SOPs for the GM, covering response timelines, escalation procedures, and management protocols. Additionally, the MoA is supposed to collaborate with the MoL to establish a referral protocol for labor-related grievances and enforce relevant regulations. Both actions are underway.

The assessment also highlighted gaps such as the lack of procedures for handling complaints related to Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH) and the absence of a central database for documenting complaints. To address these, the ESSA recommended an outreach campaign to improve GM accessibility and inclusivity. The MoA is tasked with overseeing the implementation and monitoring of the enhanced GM, including regular staff training, periodic reviews, and stakeholder engagement. These measures aim to create a transparent, effective, and responsive GM that meets the needs of all stakeholders, particularly vulnerable groups, thereby supporting the success and sustainability of the ARDI Program.

Ongoing work on improving the exiting GM system by the MoA include operating an existing GM through multiple channels at both central and local levels. These include the government's electronic GM platform, "Bekhedmatekom" ("At Your Service"), as well as traditional methods such as phone, email, fax, and physical complaint boxes.

To strengthen this system, the WB is supporting MoA in developing SOPs for the GM as part of the PforR PAP. The SOPs—currently being finalized—will soon be rolled out and will address key aspects such as response timelines, escalation procedures, management protocols, and specific processes for handling complaints related to SEA/SH. This support aims to enhance the robustness and responsiveness of the GM.

No grievances have been reported during the recent period, and relevant data will be documented in the E&S progress reports. Additionally, MoA is collaborating with the MoL to ensure that agricultural sector workers have access to the workers' complaints platform "Hemayah."

7. RECOMMENDATIONS

All the recommendations stated in the ESSA of the parent Program are still valid and should be read and followed in conjunction with the stipulations of this Addendum. The E&S PAP actions will continue to be valid and will also be sufficient to mitigate the risks and impacts of the proposed AF and restructuring. However, additional recommendations/actions related to the proposed AF are being suggested to complement those that were originally proposed in the parent ESSA.

Table 4: New Recommendation actions to be added to the exiting PAP actions

Action	Entity	Timeline	Completion Measurement
Expand the Stakeholder Engagement Plan (SEP) under the IPF component to explicitly integrate the PforR component. This includes identifying PforR-specific stakeholders (e.g., cooperatives, producer organizations, women-led groups), outlining engagement methods, and ensuring inclusion of vulnerable groups.	MoA	February 2026	▪ Updated SEP document submitted with a dedicated section on PforR engagement. ▪ At least three stakeholder engagement activities conducted under the PforR and documented in semi-annual reports.
MoA to apply existing site level E&S screening and ESHS monitoring checklists for RWH structures in Badia (Hafirs). In addition, these checklists should be updated based on the findings of the SESA and related guidelines.	MoA	June 2026	▪ Screening and monitoring reports submitted for RWH structures. ▪ Updated checklists reflecting SESA findings completed.
Strengthen inclusion, labor, and gender monitoring.	MoA	June 2026	▪ Adding basic participation tracking (women, youth, refugees) to quarterly reports. ▪ Piloting a simple labor checklist during MoA field visits. ▪ Disseminating a short outreach brief on opportunities for women under the Program and AF