



ANNEX 6: ENVIRONMENTAL AND SOCIAL MANAGEMENT FRAMEWORK

STRENGTHENING CLIMATE RESILIENCE OF VULNERABLE AGRICULTURE LIVELIHOODS IN IRAQ'S RURAL COMMUNITIES (SRVALI)

FAO

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LIST OF ACRONYMS

AE	Accredited Entity
BCM	Billion Cubic Meters
CBD	Convention on Biological Diversity
CC	Climate Change
CCA	Climate Change Adaptation
CRA	Climate Resilient Agricultural Practices
CSO	Civil Society Organizations
CWW	Climate Wise Women
EE	Executing Entity
ESA	Environmental and Social Analysis
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
ESS	Environmental and Social Safeguards
FAO	Food and Agriculture Organization of the UN
FFS	Farmer Field Schools
GAP	Gender Action Plan
GCF	Green Climate Fund
GDP	Gross Domestic Product
GDI	Gender Development Index
GHG	Greenhouse Gas Emissions
GII	Gender Inequality Index
HDI	Human Development Index
HH	Households
ICT	Information Communication Technology
ICT4CA	Information Communication Technology for Climate Change
IFAD	International Fund for Agricultural Development
ILO	International Labour Organization
INC	Iraq's Initial National Communication to the UNFCCC
IPARC	Iraqi Agricultural Research Institute
LDN	Land Degradation Neutrality
M&E	Monitoring and Evaluation
MCM	million cubic meter
MoA	Ministry of Agriculture
MoE	Ministry of Electricity
MoEPC	Ministry of Energy, Planning and Construction
MoEnv	Ministry of Environment
MoP	Ministry of Planning
MoWR	Ministry of Water Resources
NESAP	National Environmental Strategy and Action Plan for Iraq
NCCC	National Centre for Climate Change
NDA	National Designated Authority
NDC	Iraq's First Nationally Determined Contribution
NGO	Non-governmental Organization
ND-GAIN	Notre Dame Global Adaptation Initiative
NRM	Natural Resource Management
O&M	Operation and Maintenance
OHS	Occupational Health and Safety

PMF	Performance Management Framework
PMU	Project Management Unit
PNCCC	Permanent National Committee for Climate Change
PSEA	Prevention of Sexual Exploitation and Abuse
PSC	Project Steering Committee
PTF	Project Task Force
PV	Photovoltaic
RES	Renewable Energy Sources
RNE	Regional Office for Near East
SDG	Sustainable Development Goals
SEAH	Sexual Exploitation, Abuse and Harassment
SPIS	Solar Powered Irrigation system
SWLRI	Strategy of Water and Land Resources in Iraq
SRVALI	Strengthening Climate Resilience of Vulnerable Agriculture Livelihoods in Iraq's Rural Communities
TA	Technical assistance
TORs	Terms of Reference
UN	United Nations
UNCCD	UN Convention to Combat Desertification
UNDP	United Nations Development Programme
UNFCCC	UN Framework Convention on Climate Change
USD	United States dollar
WUA	Water Users Association
WUE	Water Use Efficiency

EXECUTIVE SUMMARY

Iraq is one of the most vulnerable countries of the Middle East to climate change as a result of its hydrological limitation, downstream access to water, and geographic location – Iraq is located in the plains within two major rivers (Euphrates and Tigris) and has limited arable land (21.4%). In particular, Iraq is facing climate-related risks associated with increased temperatures, decreases in precipitation, and acute water scarcity. Given this scenario, the most exposed and vulnerable sector is agriculture. These climatic changes will cause a higher loss of cultivable land to desertification, occurrence of droughts and sand storms, and greater salinization. These trends will worsen in the future, especially in the three targeted Governorates of Karbala, Muthanna and Najaf. These governorates are among the most vulnerable to climate change, due to their location in the tropical desert climate zone in the south and their exposure to future climate impacts.

The project goal is to enhance climate resilience of vulnerable agriculture households in Iraq's rural communities in Najaf, Karbala and Muthanna. **The project is aligned** with Iraq's climate change policy (INC and recently submitted first NDC), as well as its National Development Plan 2018-2022, Iraq Vision 2030, Strategic Plan of the Ministry of Agriculture 2015-2025, Integrated National Energy Strategy (2012), Strategy on Water and Land Resources (2013), Strategy for the Reduction of Poverty in Iraq (2018-2022); and Land Degradation Neutrality Targets (2017). The project is expected to reach 1,958,134 people (1,044,800 beneficiaries directly and 913,334 indirectly during the six year project overall in the country). The project will benefit 971,909 women (517,994 directly and 453,915 indirectly). In addition, the project will target women headed households who make up between 11% and 12% of the households in the project area¹.

The “Strengthening Climate Resilience of Vulnerable Agriculture Livelihoods in Iraq's Rural Communities” (SRVALI) **Category B project** will ensure that this Environmental and Social Management Framework (ESMF) is adhered to, and its sections used as guidance for the preparation of Environmental and Social Management Plans (ESMPs). This ESMF constitutes an initial environmental and social impact assessment, and notes that SRVALI project sub-activities will undertake - once specific target activity areas have been identified, and activities fully defined - further environmental and social impact assessments whence FAO and/or national environmental and social impact assessment standards/regulation will be followed, whichever is most stringent. This ESMF identifies the ESS policy triggers for the project, the potential environmental and social impacts of project activities, and measures to mitigate the identified risks.

FAO will establish a Project Management Unit (PMU) under the direct responsibility of FAO-Iraq. The PMU will be supported by technical experts assigned to each technical intervention for support and oversight; an **Environmental and Social Safeguards (ESS) Specialist** will be hired, within the PMU, for the duration of the project. A total budget of USD 307,000 is allocated for the salary of this person. The ESS Specialist will be responsible for ensuring overall compliance with this ESMF, presenting and explaining the ESMF (including the Grievance Redress Mechanism) to all stakeholders during consultations, oversight for environmental and social assessments of sub-projects, and the overall oversight of mitigation for any medium-risk activities using ESMPs developed during implementation. The ESS Specialist will also work closely with the Monitoring and Evaluation (M&E) unit and Social Inclusion and Gender Specialist, on matters related to reporting for the ESS and stakeholder engagement aspects of the project.

Major elements of the workplan for the implementation of this ESMF include capacity building of project staff and implementation partners, ESS screening and assessment, ESS oversight, stakeholder

¹ Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2016, WFP, FAO, CSO Government of Iraq.

engagement, Gender Action Plan, and monitoring and reporting. **Project costs of relevant staff** are below.

Costs description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	USD total costs
ESS safeguard specialist	70,367	70,367	70,367	57,573	19,191	19,191	307,056
Social Inclusion and Gender Specialist	76,764	76,764	76,764	76,764	76,764		383,820
Training to PMU staff	2,434	2,434	2,434	2,434	2,434	0	12,170
TOTAL	149,565	149,565	149,565	136,771	98,389	19,191	703,046

Positive impacts of the project include improving water distribution systems, stabilizing and increasing water availability at the farm level; increasing crop water productivity; transforming the existing irrigation network into more energy efficient systems; strengthening of water management institutions and the water distribution regime; and reducing the adaptation deficit of farming communities via specific and tailored training and capacity development. With the instalment of PV panels, the renewable energy generated is intended to satisfy the needs of the agriculture sector, being a reliable source of energy for pumping of irrigation water in remote areas, where electricity grid and maintenance service are not guaranteed and diesel is being used at the moment. This will ensure clean energy availability and enable farmers to get access to advanced irrigation technologies that will increase productivity without increasing water consumption to provide a more efficient and sustainable system and reduce costs. GHG emissions will be avoided due to the (a) installation and use of solar panels on irrigation canals (b) introduction of climate resilient practices such as minimum soil disturbance; (c) crop rotations that include diverse species; (d) improved rice production practices, etc. Converting earthen open irrigation canals to closed systems will improve beneficiaries' access to irrigation water during droughts, while also improving their ability to use water efficiently. Upgrades to the existing irrigation schemes, including flow-control, flow-measurement, and the installation of individual prepaid water meters are expected to bring positive outcome to farmers as it will allow them to have a more equitable access to surface water, also reducing the need for pumping groundwater. Covering irrigation canals with PV panels is also expected to save water due to the reduction of water evaporation.

Potential negative impacts are mitigatable, and are mainly related to construction works for upgrading existing irrigation infrastructure and installation of solar panels. These impacts can be of physical nature (involving construction practices); other potential impacts during construction works are related to Operational Health and Safety Risks (OHSR), and human health (e.g. COVID-19 considerations). Potential social risks are related to the involvement of women in decision-making; power given to the president of Water User Associations, for example, can lead to issues of elite capture and marginalization of women. Pesticide use is not envisaged, and Indigenous Peoples are not present in the project area; both these are, however, accounted for in the ESS mitigation plan of this ESMF. **FAO Safeguards that are applicable for SRVALI** are presented below.

FAO Safeguard	Applies	Justification
ESS1: Natural Resource Management	Yes	This Safeguard was triggered because of infrastructure works related to irrigation canals and solar energy panels. Water conveyance efficiency will be improved by shifting from <i>existing</i> open distributary and watercourse earth canals to buried irrigation pipelines. Selected canals will be covered with solar panels to provide farming communities with renewable energy. Infrastructure design will be undertaken in close collaboration with all concerned stakeholders (i.e. government agencies and water users), and will include feasibility studies and prioritizing irrigation water control and systems for the fast tracking of repair, rehabilitation and construction works; construction will be in line with best practice and agreed with national authorities.

ESS2: Biodiversity, Ecosystems and Natural Habitats	No	All project areas correspond to existing agricultural areas and the project will not foresee or cause expansion of irrigated lands. Therefore, no impact is foreseen on natural habitats, ecosystems and biodiversity.
ESS3: Plant Genetic Resources for Food and Agriculture	Yes	During training through FFS, demonstration sites will use salt and drought-tolerant crop varieties commonly used in the country, which were developed and tested by the Iraqi Agricultural Research Institute (IPARC). These varieties are already registered and authorized by the National Council for Seeds. No seeds will be procured and no new planting material (crop varieties) will be introduced into the country.
ESS4: Animal - Livestock and Aquatic - Genetic Resources for Food and Agriculture	No	The project will not introduce new crops or animals nor will modify existing livestock management patterns. The project will not foresee or cause expansion of irrigated lands. Therefore, livestock and aquatic genetic resources will not be impacted.
ESS5: Pest and Pesticide Management	No	The project will not lead to increased use of pesticides through intensification or expansion of production. Should, however, this occur, the project already works through FFS, and IPM practices would be promoted.
ESS6: Involuntary Resettlement and Displacement	No	The upgrade of identified infrastructures (i.e. irrigation canals) will not imply changes in their existing location or dimensions. Therefore, there will be no involuntary resettlement or displacement resulting from project activities.
ESS7: Decent Work	Yes	The project operates in target areas with high incidences of vulnerability - these persons are project beneficiaries. The project will generate employment for the local population - workers will be employed in line with national legislation and/or UN/FAO regulation, whichever is most stringent. Training will be provided on operations, and Operational Hazards and Safety Risks, including on COVID-19 related safety precautions.
ESS8: Gender Equality	No	<p>The project will not overlook existing gender inequalities in access to productive resources, goods, services, markets, decent employment and decision-making. On the contrary, gender inclusion is a key project consideration of the project, and the "Climate Wise Women" initiative, as change agents for climate adaptation, will be established.</p> <p>With regards to the prevention of sexual exploitation and abuse (PSEA), through its Grievance Redress Mechanism the Project will ensure that all concerns and/or incidents will be reported to the PSEA focal point and the FAO Office of the Inspector General, as appropriate. The Project will include sexual exploitation and abuse awareness raising, and stakeholder-differentiated understanding, during stakeholder engagement (ref. Appendix 4).</p>
ESS9: Indigenous Peoples and Cultural Heritage	No	<p>A precondition for the selection of distributary canals and their watercourses is that their right of way be free from any physical cultural resources, including graves.</p> <p>The project is designed to ensure benefits to <i>all</i> target groups and peoples that will be impacted by project activities. The presence of Indigenous Peoples in the target governorates are not reported (by FAO databases, national institutions, governorates and communities); however, should their presence emerge during the execution phase, the project will prepare an Indigenous Peoples Plan as per GCF IPs Policy, at the inception phase of the project.</p>

At the time the project was first conceived, a range of activities were put forward, and project areas were not concretely identified. During the course of project elaboration, **key stakeholders, including national and local government agencies and other relevant stakeholders were consulted in virtual/hybrid workshops and virtual/hybrid detailed bilateral meetings**. Field visits were not possible because of COVID-19. During workshops, feedback was received on national priorities including water use efficiency, climate smart agricultural practices, renewable energy and gender equality and empowering women. The project area was considered an issue to be discussed, and in particular the irrigation canals to be targeted. During bilateral meetings, and considering agreed selection criteria, the selection of the candidate canals for conversion from open to closed systems

and for the installation of solar systems were closely coordinated with the Directorates of Water Resources (DoWR) in each of the Governorates.

During project implementation, consultations will be held with the involved stakeholders. Consultations with stakeholders during project implementation will take place yearly, at the time of the preparation of Annual Work Plan and Budget (AWPB) – i.e. at the beginning of each of the eight project Fiscal Years (FY). The AWPB will be presented by the PMU and reviewed by all stakeholders, including at the national, Governorates, Municipality, and community levels. During these stakeholder engagement consultations, the ESFM – including the Grievance Redress Mechanism (GRM), but also the Gender Action Plan (GAP) and PSEA/SEAH information - will be shared with stakeholders, and explained. In addition, as needed, consultations will be held with relevant stakeholders during the preparation and implementation of sub-activities.

1. INTRODUCTION

Iraq is one of the most vulnerable countries of the Middle East to climate change, as a result of its hydrological limitation, downstream access to water, and geographic location – Iraq is located in the plains within the two major rivers (Euphrates and Tigris) and limited arable land (21.4%). According to the ND-Gain, Iraq is the 115th most vulnerable country (out of 182 countries) for climate vulnerabilities, with a great need for investment and innovations to improve readiness and a great urgency for action.

In Iraq, increasing temperatures, droughts and erratic precipitation patterns, together with increasing evaporation, are causing water stress in both rainfed and irrigated areas. Droughts and reduced water availability are increasing the loss of arable land, causing additional distress to rural populations already suffering from social unrest. Since agriculture is the economic and social safety net of the rural poor in the country, any poverty reduction strategy has to incorporate climate change risk reduction objectives. The predicted future climate conditions will significantly reduce water availability in the spring/summer periods critical for crop production, causing marked reduction in runoff relative to input precipitation, increased evapotranspiration, decreased soil moisture, and increased soil salinity risk.

Key constraints were identified as main barriers to adaptation and mitigation: : (i) lack of fiscal space for investments in innovation and climate proofing; (ii) shortage of energy to enable efficient water use practices; (iii) high climate change adaptation deficit and limited farmer awareness about climate resilient technologies and practices; (iv) women's lack of awareness about resilient agriculture practices and unbalanced women's representation in decision-making; (v) lack of supportive policy for efficient water regulation and use; and (vi) lack of appropriate incentives for more efficient low emissions energy supply and use.

In order to address these constraints, upon request of the Government of the Republic of Iraq, **FAO began the process of developing a proposal for the project “Strengthening Climate Resilience of Vulnerable Agriculture Livelihoods in Iraq's Rural Communities” (SRVALI)**. The project will be implemented in three Governorates in Iraq, in areas most vulnerable to climate change: **Karbala, Muthanna and Najaf**. These Governorates have a total population estimated to be around 3.6 million in 2019, or about 9% of the total country population.

The project goal is to enhance climate resilience of vulnerable agriculture households in Iraq's rural communities in Karbala, Muthanna and Najaf. **The project has three interrelated components** which will work synergistically and enhance the impact of project investments. The components are designed to deal with **water and energy availability**; the **adaptation deficit** of farming communities; and strengthening **policy frameworks**:

Component 1: Strengthening resilience against climate induced water scarcity

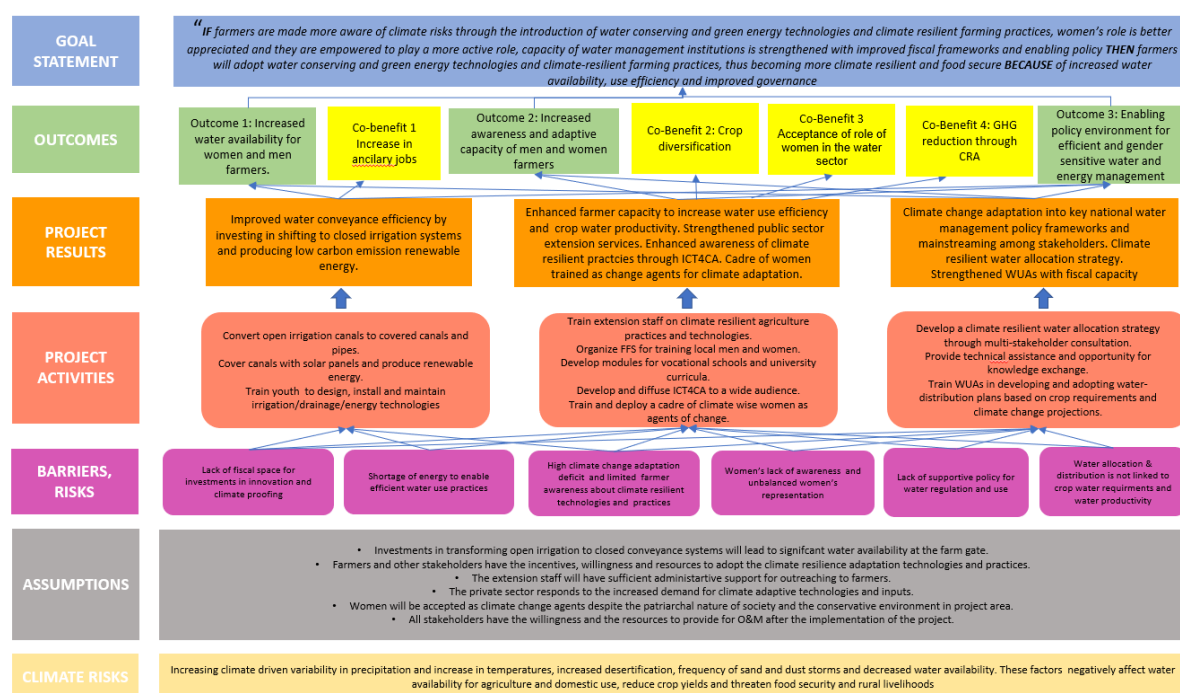
Component 2: Climate Resilient Agricultural Production

Component 3: Scaling-up climate adaptation through policy formulation and planning

The SRVALI theory of change. There are several areas in which the project is expected to facilitate a paradigm shift in the country. These include transformation of the agricultural sector through more efficient use of water by conversion of open-air canals to piped systems, piloting solar powered energy on irrigation channels, transforming agricultural production practices and use of climate resilient technologies and practices, changing the system of water regulation and use, and participation of women as key agents of change in the farming sector. The theory of change for scaling up the scope and impact of the project is premised on the experience that there is a growing private sector that can

be the engine of growth in the use of adaptive productive technologies, efficient irrigation equipment, crop varieties and inputs, and in the investment of low carbon options such as solar energy. The project will demonstrate adaptive and solar technology to the public sector, private sector and farmers given that while these technologies may be well known in other countries in the region, there may not be sufficient awareness about them in Iraq. The demonstration of these climate adaptive and energy efficient options will lead to a growing demand in the country for the use of the host of climate adaptive and low-emissions technologies.

Figure 1. SRVALI Theory of Change



SRVALI is part of a larger, global picture – project results feed into global processes including the UN Framework Convention on Climate Change (UNFCCC) and its related agreements/processes and achieving the Sustainable Development Goals (the UN 2030 Agenda for Sustainable Development (2030 Agenda) and its 17 Sustainable Development Goals - SDGs). The SRVALI objectives are closely aligned with national policy objectives and international climate change commitments of the Government of Iraq, including its [Initial National Communication \(INC\) to the UNFCCC](#) and recently submitted first [Nationally Determined Contribution \(NDC\)](#), the Iraq Vision 2030, [National Development Plan \(2018-2022\)](#), [Strategy for the Reduction of Poverty in Iraq \(2018-2022\)](#), [National Environmental Strategy and Action Plan \(NESAP\) \(2013-2017²\)](#), [Strategy of Water and Land Resources in Iraq \(SWLRI\) \(2013\)](#), [The Strategic Plan of the Ministry of Agriculture \(2015-2025\)](#), [Integrated National Energy Strategy \(INES\) 2013-2030](#), and [Land Degradation Neutrality \(LDN\) targets](#). The project is aligned with the adaptation measures and programs identified in the INC and NDC for improving the efficiency of field irrigation, using plants that are tolerant to drought and other global warming effects, and enacting legislation to rationalize water use. National stakeholders were engaged in the process of developing the concept note. The concept note is accompanied by a Letter of No-Objection from the NDA showing country ownership.

² Currently being updated.

The Project has been classified as a **moderate risk (Category B)** by the **Food and Agriculture Organization of the United Nations (FAO)** in compliance with [FAO's Environmental and Social Management Guidelines](#) and considering the [GCF's Environmental and Social Safeguards](#). The project's risk assessment was conducted using FAO's Environmental and Social Screening Form (Annex 3), which identifies areas of risk and, based on the risk screening responses, resulted in the moderate-risk categorization. Due diligence for addressing identified risks is carried out through the Environmental and Social Management Framework (ESMF, this document) which guides project implementing agencies and stakeholders on environmental and social assessment, mitigation of impacts, and monitoring and reporting procedures during project implementation. The ESMF will be adopted by the NDA, Executing Entity, and any sub-contractors. Sub-contractors will include reference to this ESMF and the need to abide by the protocols and actions listed herein. Relevant project partners will be provided with required Environmental and Social Safeguards (ESS) training prior to undertaking project-related activities.

The preparation process of this ESMF contributed to project formulation by identifying, *a priori*, “do-able” – or not – activities and provided suggestions for improvements in project activity design. This ESMF ensures that environmental and social management is integrated into the development cycle of individual sub-projects, including consideration of the recent [FAO guidance on ESS and COVID-19](#). Since exact sub-projects and target areas are not determined at the onset of project but will be refined during project implementation, the ESMF is the appropriate instrument under FAO's Environmental and Social Safeguards Policy. The ESMF serves as a practical tool to guide identification and mitigation of potential negative environmental and social impacts of proposed projects and serve as a platform for consultations with stakeholders and potential project beneficiaries.

Specifically, the **objectives of this ESMF** are to:

- Assess the potential environmental and social impacts of the proposed project, whether positive or negative, and propose mitigation measures which will effectively address these impacts;
- Establish clear procedures for the environmental and social planning, review, approval, and implementation of sub-activities to be financed under the project;
- Specify appropriate roles and responsibilities, and outline the necessary reporting procedures, for managing and monitoring environmental and social concerns related to sub-activities;
- Consider different alternatives, options and relevant mitigation measures during project preparation and implementation;
- Determine the training, capacity building and technical assistance needed to successfully implement the provisions of the ESMF;
- Address mechanisms for public consultation and disclosure of project documents as well as redress of possible grievances; and
- Establish the project funding required to implement the ESMF requirements and to provide practical resources for implementing the ESMF.

2. PROJECT DESCRIPTION

2.1 PROJECT OBJECTIVES

The objective of the project is to enhance the climate resilience of rural households in Iraq through the introduction of climate adaptive infrastructure, technologies and farming practices that will stabilize and possibly increase water availability, water use efficiency and secure agriculture yields at the farm level. The project is designed to increase water productivity per unit of production and reduce food insecurity; interventions were selected because of their potential to have a high impact and bring about a sustainable paradigm shift in the agriculture sector.

The project goal is to enhance climate resilience of vulnerable agriculture households. It is expected that the project will contribute to increased climate resilient sustainable development in Iraq through improving the water distribution systems, stabilizing and increasing water availability at the farm level; increasing crop water productivity; transforming the existing irrigation network into more energy efficient systems, strengthening of water management institutions and the water distribution regime; and reducing the adaptation deficit of farming communities via specific and tailored training and capacity development.

Overall, the project is expected to reach 1,943,497 people (1,044,800 beneficiaries directly and 971,909 indirectly during the six year project overall in the country). The project will benefit 964,987 women (517,664 directly and 453,915 indirectly). In addition, the project will target women headed households who make up between 11% and 12% of the households in the project area³. It is estimated that total emission savings per year are -67,317 tCO₂ eq, and at least 1,346,335 tCO₂ eq. will be avoided over 20 years of the project.

2.2 PROJECT COMPONENTS

In addition to Project Management, SRVALI has three components and related activities (Table 1), and while each have their own specific outcomes, all three interrelated components will work synergistically to enhance the impact of project investments. Component 1 **“Strengthening resilience against climate induced water scarcity”** will address water and energy availability to ensure increased water supply, reduced water losses and increased water use efficiency through three Sub-Components. These are (i) investments in irrigation canals upgrading; (ii) investments in energy efficient systems; and (iii) investments in knowledge transfer, behaviour change and training. Component 2 **“Climate Resilient Agriculture Production”** will address the adaptation deficit of farming communities through extension programs, knowledge transfer processes, empowerment of Water User Associations, and through e-extension systems or Information Communication Technology for Climate Change (ICT4CA). It will do this through three Sub-Components: (i) strengthening adaptive capacity of farmers; (ii) enhancing awareness about energy efficient solutions; and (iii) enhancing climate resilience for women. Component 3 **“Scaling-up climate solutions into policy formulation and planning”** will address the strategic and legal framework for: water management and adoption of climate resilient technologies, including a fiscal framework for improved irrigation at the governorate level; and solar rural electrification. It will undertake a problem analysis and develop best-fit solutions for the three areas of performance: water service delivery, organizational resources, and governance through both descriptive and analytical work.

The project components will lead to five Outcomes: Outcome 1: Increased water productivity and food security; Outcome 2: Reduced emissions through use of solar energy; Outcome 3: Increased capacity

³ Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2016, WFP, FAO, CSO Government of Iraq.

for climate adaptation of women and men farmers; Outcome 4: Increased awareness about climate change and its risks; and Outcome 5: Enabling policy environment for efficient water use.

Table 1. SRVALI project components. Components and Outputs	Activities
Component 1. Strengthening resilience against climate induced water scarcity	
Outcome 1: Increased water availability for women and men farmers through Improved water conveyance efficiency by investing in closed irrigation systems and producing low carbon emission renewable energy	
Sub-Component 1.1: Investments in irrigation canals upgrading	
Output 1.1.1: Open canals shifted from to closed systems benefiting 8,457 people	Activity 1.1.1.1. Activity 1.1.1.2. Activity 1.1.1.3. Activity 1.1.1.4. Activity 1.1.1.5.
Sub-Component 1.2: Investments in Energy Efficient Systems	
Output 1.2.1: One km of Water canals covered with solar panels, providing 1,000 kW of renewable energy	Activity 1.2.1.1. Activity 1.2.1.2. Activity 1.2.1.3. Activity 1.2.1.4.
Sub-Component 1.3: Investments in knowledge transfer, behaviour change and training	
Output 1.3.1: 500 technical staff trained in design, installation and maintenance of irrigation, drainage and energy technologies	Activity 1.3.1.1. Activity 1.3.1.2.
Output 1.3.2 15 WUAs supported in developing and adopting more efficient and climate sensitive water-distribution plans	Activity 1.3.2.1. Activity 1.3.2.2.
Component 2. Climate Resilient Agriculture Production	
Outcome 2: Increased awareness and adaptive capacity of men and women farmers through training to increase water use efficiency and crop water productivity, strengthened public sector extension services and enhanced awareness of climate resilient practices and training of a cadre of women as change agents for climate adaptation	
Sub-Component 2.1: Strengthening Adaptive Capacity of Farmers	
Output 2.1.1: 400 Extension Staff trained on climate resilient agricultural practices and technologies	Activity 2.1.1.1. Activity 2.1.1.2. Activity 2.1.1.3. Activity 2.1.1.4.
Output 2.1.2: Enhanced capacity of 10 000 farmers in Climate Resilient Agriculture	Activity 2.1.2.1. Activity 2.1.2.2.
Output 2.1.3: 100,000 farmers reached through ICT4CC technologies	Activity 2.1.3.1.
Sub-Component 2.2: Enhancing Awareness about Energy Efficient Solutions	

Output 2.2.1: Technical Capacities of 90 stakeholders and knowledge of 12,000 citizens on solar energy increased through trainings and awareness raising events	Activity 2.2.1.1 Activity 2.2.1.2
Sub-Component 2.3: Enhancing Climate Resilience for Women	
Output 2.3.1 : A cadre of Climate Wise Women (CWW) trained as change agents for climate adaptation	Activity 2.3.1.1 Activity 2.3.1.2 Activity 2.3.1.3 Activity 2.3.1.4 Activity 2.3.1.5
Output 2.3.2. 40,500 Women adopt for climate adaptive measures.	Activity 2.3.2.1 Activity 2.3.2.2
Component 3. Scaling-up climate solutions into policy formulation and planning	
Outcome 3: Enabling policy environment for efficient water and energy management through incorporation of climate change adaptation into key national water and energy management policy frameworks and development of a gender sensitive climate resilient water allocation strategy and rural electrification Road Map	
Output 3.1.1: A climate resilient water allocation strategy and its action/legal/coordination plan developed	Activity 3.1.1.
Output 3.1.2: Improved national compliance practices for management of irrigation water supply	Activity 3.1.2.1 Activity 3.1.2.2
Output 3.2.1: Enhanced planning for solar rural electrification	Activity 3.2.1.1

2.3 TARGET AREAS AND ELIGIBILITY CRITERIA

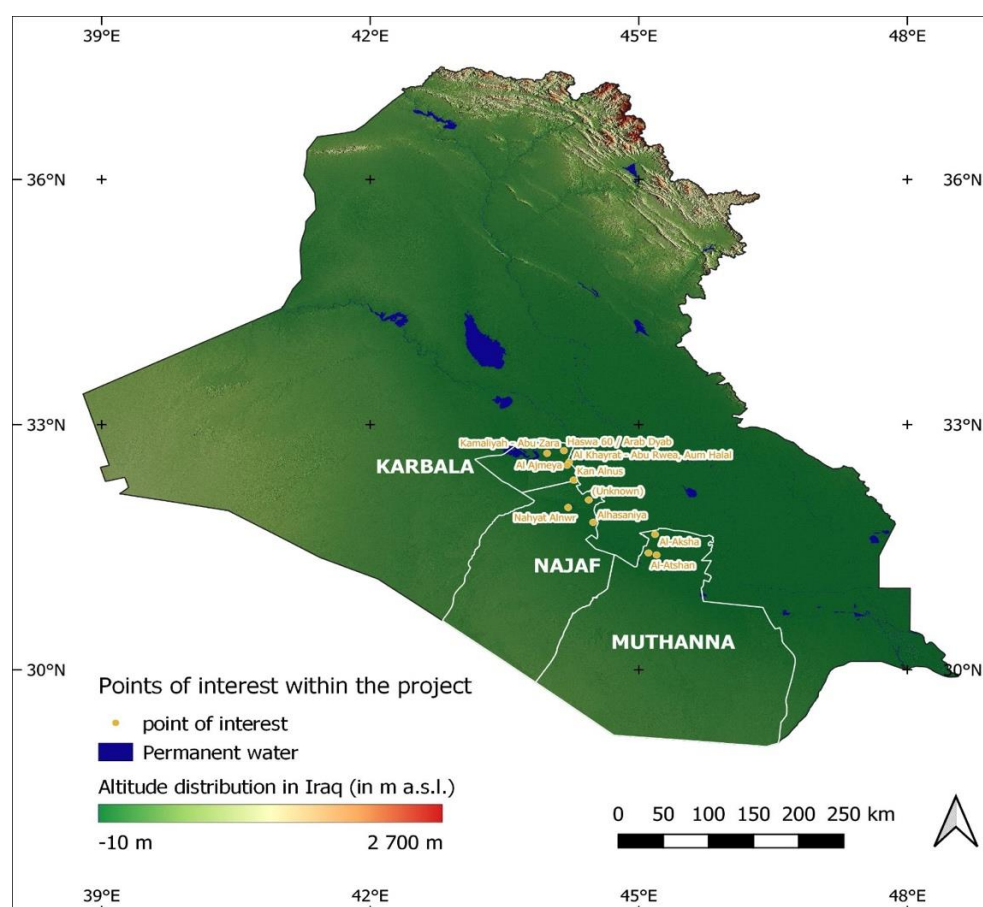
The project targets three Governorates located in the southern area of Iraq (Figure 2), areas which are most vulnerable to climate change. These are Karbala, Najaf and Muthanna.

The selection of project target areas was guided by climate change challenges and related vulnerabilities, the presence of a significant number of poverty pockets, and potential for site-specific Climate Change Adaptation (CCA) interventions. Proposed target areas were identified according to the following criteria: a) exposure of ecosystems and communities to climate variability and changes, and extreme weather events natural hazards triggered by (or made worse by) climate variability and change; b) vulnerability of ecosystems and communities to climate change; c) mitigation potential in terms of energy and water efficiency; d) high dependency of communities from natural resource exploitation for food production; and e) socio-economic vulnerability of communities.

Most of the targeted households (at least 11% of which are female-headed) in the three Governorates are food insecure, and are already suffering the adverse impacts of climate change. The identification of target areas was based on consultations with stakeholders during the project identification and design. National consultations were held with stakeholders, including the National Designated

Authority (NDA); relevant ministries, including the Ministries of Health and Environment, Agriculture, Water Resources, Electricity and Planning; and representatives of each target Governorate.

Figure 2. SRVALI Target Governorates and 11 Points of Interest (POI) Considered within the Project



Overlayed on a topographical map and a permanent water map. *Data source: NASA / USGS / JPL-Caltech (Farr et al., 2007) and JRC Yearly Water Classification History (Pekel et al., 2016).*

As reported in the recently published socio-economic atlas of Iraq, selected governorates are those with the smallest proportion of arable land, with the highest drought prone area, with the highest percent of food insecure males (up to 11%) and females (up to 15%) and the highest percent of female-headed households (up to 14%)⁴. The average unemployment in the governorates is around 14%, and almost half (45%) of jobs are unwaged, mostly in the agriculture and trade. Female labour force participation is very low at 12%, with similar rates across urban and rural areas. Almost a quarter of the population (24%) lives below the national poverty line. The socio-economic impacts on rural poverty and marginal food insecurity at governorate level, productivity challenges, and probability of increased temperatures, are expected to influence the population in the selected area.

The areas of the project points of interest in each target Governorate are listed in Table 2.

Table 2. Project Points of Interest

Governorate	Site	District	Point of Interest
Muthanna	1	Al Najmi	Al-Aksha

⁴ WFP. 2019. Socio-Economic Atlas. https://docs.wfp.org/api/documents/WFP-0000110173/download/?_ga=2.117467465.1183558032.1597114646-491163265.1597114646

	2	Al Helal	Project Al Kadeer
	3	Al Majed	Al-Atshan
Kerbala	1	Al-Hur	Kamaliyah-Abu zara
	2	Al-Hindiya	Al Khayrat- Abu Rwea, Aum Halal
	3	Al-Jadwal GI-Gharbi	Al Ajmeya
	4	Al-Husayniyah	Haswa 60 /Arab Dyab
Najaf	1	Bhr Alnajaf	Nahyat Alnwr
	2	Al Mishkhab	Alhasaniya
	3	Al Abbasiyah	(unknown)
	4	Al-Haydariya	Kan Alnus

2.4 PROJECT GOVERNANCE AND MANAGEMENT

At the level of strategic guidance and oversight, a Project Steering Committee (PSC) will be established. As the National Designated Authority (NDA) for GCF in Iraq, the Ministry of Environment (MoEnv) will notify the formation of the PSC, and chair and convene regular six-monthly meetings to assess performance and issue appropriate guidance. The PSC will be composed of primary stakeholders such as the Ministry of Planning (MoP), Ministry of Finance (MoF), the Ministry of Water Resources (MoWR), the Ministry of Agriculture (MoA) and the Ministry of Energy, Governors of Najaf, Karbala and Muthanna. The Project Steering Committee will meet on a bi-annual basis. The role of the PSC will be to: (i) provide overall guidance and direction to the project; (ii) ensure that co-financing support is provided in a timely and effective manner and report against its availability and use of co-financing; (iii) address project issues as raised by the PMU and/or PSC members or Executing Entities (EEs); (iii) review the project progress, and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily and within the approved project framework; (iv) review and approve annual work plan and provide necessary strategic guidance for its implementation; (v) appraise the annual project reports; and (vi) make recommendations for subsequent work plans to build on achievements and address any shortcomings, etc. The Project Coordinator of the Project Management Unit (PMU) will act as Rapporteur to the PSC.

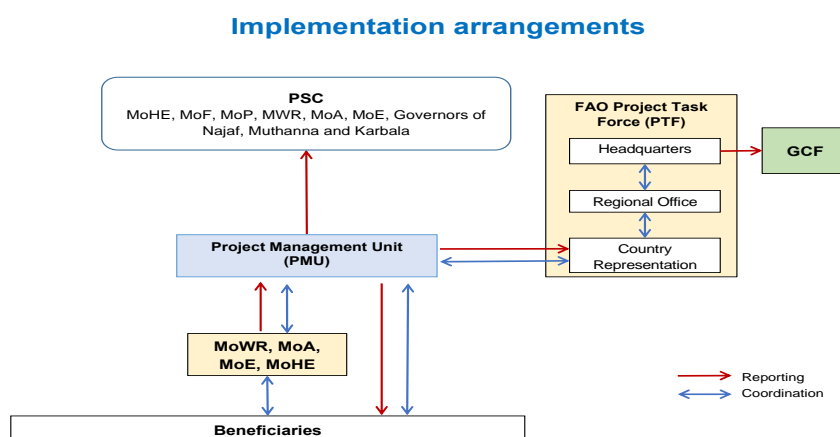
The project will also establish a Coordination Committee which will include key experts from the Ministry of Environment, MoA and will have the following responsibilities: facilitate coordination between PMU and the project stakeholders (partners and beneficiaries within the target governorates); ensure alignment with national climate change adaptation strategies and priorities; coordinate and bring together the different actors and partners implementing climate change adaptation projects in the country to ensure complementarities; ensure that the project activities have no negative environmental and social impacts; and coordinate all activities relevant to policy dialogue and to regional and local adaptation plans and strategies.

The MoEnv will play a supportive and facilitative role during project implementation and identify opportunities for building synergies with other projects dealing with climate finance change. As NDA and as the lead agency responsible for environmental aspects, the MoEnv will use its convening power to facilitate consultations at the national level as well as assist in conducting knowledge exchange processes for scaling up innovations and investments; enhancing impact and introducing a paradigm shift in the management, allocation and use of scarce water resources; and improved adaptation to climate risks and efficient use of renewable sources of energy. Where appropriate, the Iraqi National Centre for Climate Change (NCCC) and the Permanent National Committee for Climate Change (PNCCC) will engage other Iraqi ministries involved in climate change adaptation and mitigation,

municipalities, local Government, research institutions and Civil Society Organizations (CSOs) to coordinate with stakeholders and raise national awareness.

The organizational structure of the project is illustrated in Figure 3, below.

Figure 3. Project Organizational Structure.



3. ENVIRONMENTAL AND SOCIAL BASELINE⁵

3.1 GEOGRAPHICAL CONTEXT

Covering an area of 438 317 km²⁶, Iraq is located in southwest Asia, and is bordered in the east by Iran, in the north by Turkey, in the west by Syria and Jordan, and in the south by Saudi Arabia and Kuwait. The country slopes from mountains over 3,000 meters above sea level along the border with Iran and Turkey to the remnants of sea-level marshes in the southeast. Much of the topography is mostly broad plains; reedy marshes along the Iranian border in the south with large flooded areas. The mountains in the northeast are an extension of the alpine system that runs eastward from the Balkans into southern Turkey, northern Iraq, Iran, and Afghanistan, terminating in the Himalayas.

Four main geographical regions make up the country: (i) **Mountainous region**: around 20 percent of the total area, this region is located in the northern and eastern part of Iraq. It is extended to the joint borders with Turkey, Iran and Syria in the north, east and west; (ii) **Undulating region**: around 10 percent of the total area, this region is located between the lowlands in the south and the high mountains in the far north and northeast of Iraq; (iii) **Desert plateau**: around 40 percent of the total area, the desert plateau is located in the west of Iraq; and (iv) **Sedimentary plain**: the great Mesopotamian alluvial plains occupy about 30 percent of Iraq's total area. A roughly 650 km x 250 km rectangular-shaped area, it extends between the town of Balad on the Tigris River and the city of

⁵ A significant amount of information for this chapter has been extracted from four Working Papers that form art of the Full Funding Proposal, on climate change, water, energy and agriculture. Wherever possible, information at project district level is provided.

⁶ <https://www.cia.gov/the-world-factbook/countries/iraq/#geography>

Ramadi in the black hill area on Euphrates River from the north, and includes the marshlands and lakes to the west⁷.

Iraq's limited arable land (21.4 percent) is largely concentrated in the plains within the two major rivers (Euphrates and Tigris). The climate is mostly arid with mild winters and dry, hot, cloudless summers. Rainfall distribution is temporally and spatially uneven. Average annual rainfall ranges between 200 and 300 mm on average, but in the desert regions, it ranges between 50 and 200 mm⁸. The mountainous region of northern Iraq receives appreciably more precipitation than the central or southern desert region. High rates of evaporation condition water availability in the southern plains (10 to 17 mm per day in the summer). South and Southeasterly Sharqi are dry dust winds that impact the country from April to June and September to November. The North, Northwest Shamal Winds lead to extensive surface heating⁹.

The three major climactic zones that characterize Iraq are:

- (i) **Mediterranean climate:** characterized by cold winters and snowfall on mountaintops, and mild summers with temperatures not exceeding 35°C in most areas, rainfall ranges from 400 mm to more than 1,000 mm. Rain falls mostly between November and March;
- (ii) **Steppe climate:** this climate is semi-arid; it is the transitional climate between the mountainous area climate and the desert climate in the south. Here, summer temperatures rise from 26°C to 46°C, daily. Annual rainfalls range between 200 and 400 mm with nearly all precipitation occurring between November and April; and
- (iii) **Warm desert climate:** a largely uninhabited area, the desert area has only negligible annual rainfall, being extremely hot and arid. Average diurnal temperatures range from 4°C to 17°C in the winter, to 25°C to 43°C in the summer. Extreme temperatures can range from -8°C in the winter to over 48°C in the summer months¹⁰.

3.1.1 Basic characteristics of target areas

Karbala, Muthanna and Najaf are located in the south west of the country, in the lower Mesopotamian plain; 80 percent are salt affected areas. The landscape is dominated by desert plains, with irrigated farmland along the Euphrates River. A large part of the area is now abandoned waste land and no fresh water is available for reclamation or cropping. Soil salinity and water scarcity are the main causes for destabilizing farmer communities and abandoned cultivation areas. Drought is increasing in frequency in these hottest regions of central and south-western Iraq, and contribute to desertification of arable land. Water scarcity poses additional threats, as availability in the Tigris and Euphrates declines due to drought¹¹. The majority of the area in Najaf and Muthanna is categorized as Drought Prone Desert Area, while Karbala is considered Food Deficit Semi-Arid Rangelands.¹² The agricultural production systems in these are highly dependent on water availability provided by irrigation systems and groundwater. The current rainfall, which averages around 100 mm per year, does not meet the water needs for crop production.

Summers are hot and dry, while precipitation is very low (< 110 mm/y) and limited to the winter months. Increasing temperatures (MIN and MAX) and erratic rainfall patterns are severely affecting agriculture and the identified project areas have been among those mostly affected by the 2018 ban

⁷ https://reliefweb.int/sites/reliefweb.int/files/resources/Iraq_3.pdf

⁸ , Ref. Annex 16-A. SRVALI Project. FAO. 2021. Climactic Atlas of the Republic of Iraq at River Basin, Country and Target Governorates Level.

⁹ <https://climateknowledgeportal.worldbank.org/country/iraq/climate-data-historical>

¹⁰ https://reliefweb.int/sites/reliefweb.int/files/resources/Iraq_3.pdf

¹¹ WFP. Iraq Socio-Economic Atlas. 2019. https://docs.wfp.org/api/documents/WFP-0000110173/download/?_ga=2.117467465.1183558032.1597114646-491163265.1597114646

¹² *Ibid.*

on planting rice and corn due to drought^{13,14}. The 2021 FAO study for the SRVALI Iraq Atlas (Annex 16-A) used local meteorological data which confirmed increases in annual average temperatures. The availability of local data from project areas was not always available; both local and remote sensing data was used for the preparation of SRVALI. Results show that average temperatures increased by between +0.22°C and +0.56°C per decade in the target governorates and by 0.37°C per decade on a national level since 1980; these trends will be exacerbated in the future, in particular in Karbala, Muthanna and Najaf, with adverse effects on water availability and on agriculture (Annex 16-A)¹⁵.

3.2 ENVIRONMENTAL CONTEXT

Some of the major environmental issues identified in Iraq include poor water quality, soil salinity, air pollution, and conflict pollution to the deterioration of key ecosystems, climate change impacts and threat of water shortages¹⁶. The causes of environmental degradation in Iraq are multiple, and include population pressure; the increasing need for resources of food, energy, housing and water; processes that threaten ecosystems such as biodiversity degradation, desertification and land degradation; poor environmental awareness; poor environmental monitoring systems; and wars and political unrest¹⁷. Large areas of Iraq are facing serious problems of desertification due to declining water flow, repeated frequency of drought and increasing water salinity; it is estimated that desertification affects 39% of the country impacting on soil salinity, soil erosion and wind erosion with scenarios indicating future threats on coastlines due to sea level rise. This is decreasing land productivity, diminishing yields, increasing harvest losses and threatening the livelihoods of between 18% to 23% of the population who depend on agriculture for their livelihoods. This figure reaches around 40% in the southern governorates. Farmers of saline soils are using only 30% of their land for cropping and are achieving only 50% of the expected yields. Soil salinity caused cropping systems to move away from high-value crops to lower-value crops. Dust storms are another issue - in recent years, the frequency and intensity of dust storms have increased due to low soil moisture¹⁸. Climate change affects and will continue to impact rainfall patterns and temperatures, increasing the country's vulnerability to drought and environmental challenges; water availability is already a major issue. Rainfall has decreased from 15 to 25 percent, and surface water is projected to decrease by 17.64 BCM (billion cubic meters) or 24.5 percent over the next 20 years¹⁹. Consumption of water outside Iraq is thought to be the cause of 15.21 billion cubic meters of that reduction. Population growth trends and increasing urbanization will lead to a rise in water consumption and increased pressure on agriculture water systems across the nation, but mainly in the Central and Southern Governorates where the SRVALI project Governorates are located, and where irrigation plays a key role in agricultural production.

Mapping of climate and environmental risks in the southern and central governorates, where the SRVALI target areas are located, shows that key hazards are as follow²⁰:

- Water scarcity (drought/low precipitation and unreliable, declining supplies from riparian countries).
- Salt water contamination of rivers (sea level rise and excess pumping).
- Water pollution (upstream human activity, and run-off of pesticides and other contaminants).

¹³ <https://phys.org/news/2018-07-iraq-treasured-amber-rice-crop.html>

¹⁴ <https://middleeastaffairs.net/2018/06/18/iraqs-water-shortage-means-a-suspension-of-crop-cultivation/>

¹⁵ See also Annex II – Feasibility Study

¹⁶ Price, R.A, 2018. Environmental risks in Iraq. K4D Helpdesk Report. Brighton, UK: Institute of Development Studies. www.gov.uk/research-for-development-outputs/environmental-risks-in-iraq.

¹⁷ [National Environmental Strategy and Action Plan for Iraq 2013-2017](#)

¹⁸ <https://climateknowledgeportal.worldbank.org/country/iraq>

¹⁹ Iraq Energy Institute, 2018. Towards Sustainable Water Resources Management in Iraq

²⁰ ICARDA, 2015. A National Framework for Salinity Management. The Case of Iraq Agriculture. Final report: Soil salinity management central and southern Iraq

- Soil salinity.
- High temperatures and heatwaves.
- Insufficient rainfall, particularly in the summer months.
- Erratic heavy rains and flooding.
- Persistent drought.

Outdated irrigation infrastructure, energy shortage, the lack of skills of both farmers and extension officers, and the inadequate policy and strategic framework related to water management are the main bottlenecks to climate change adaptation in Iraq - and in particular in the farming communities of the central and southern plains.

3.2.1 Water

An in-depth analysis of Iraq's water sector can be found in the *"Agricultural water sector in Iraq"* Working Paper of the Full Project Funding Proposal and Feasibility Study, from which parts have been extracted for this section. The Working Paper provides more detailed technical information on status and projections.

There are growing concerns that most of the agricultural land in Iraq will be converted to desert areas²¹, decreasing land productivity, reducing yields, and threatening the livelihoods of most of the rural populations who depend on agriculture for their living. Central to these challenges is the increasing demands on water for different purposes including agriculture, the biggest water consumer sector in Iraq, and the increasing incidence of drought and water scarcity in Iraq due to climate change and the reduced share of water from the Tigris and Euphrates.

Iraq depends upon relatively large quantities of **surface water** that originate from outside its boundaries. More specifically, the Tigris and Euphrates rivers provide Iraq with its surface water resources. Both rivers originate in the eastern mountains of Turkey and enter Iraq along its northwestern border with Turkey and Syria. The two rivers transcend the country; the Euphrates flows for about 1,000 km and the Tigris for 1,300 km, and they confluence just north of Basra. Downstream from their confluence, the river is known as Shatt al-Arab, a tidal channel, which flows 190 km before joining the Arab Gulf. Most of the water from these rivers comes from Turkey (78 percent) followed by Iran (6.9 percent) and Syria (4 percent). The remainder, only 8%, is from internal sources. The Euphrates River does not have tributaries inside Iraq.

The average annual flow of the Euphrates and Tigris is estimated to be about 30 BCM (which might fluctuate from 10 to 40 BCM) for the former and 21.2 BCM for the latter when entering Iraq. Tigris River tributaries in Iraq contribute 24.78 BCM of water and there are about 7.0 BCM of water brought by small wadies from Iran, which drains directly towards the marshes area²². The average yearly inflow of the Euphrates declined from 30.26 BCM for the period 1933-1972 to 23.59 BCM for the period 1973-1989.

The Tigris and Euphrates river basins are faced with reduced precipitation (snow and rainfall) and increasing demographic pressures, upstream hydro-infrastructure developments, water-quality concerns²³ and conflicts (Anne 5). The anticipated decline in surface water flows into Iraq because of upstream development on the Tigris and Euphrates could further reduce overall water availability by

²¹ Sissakian *et al.* *Sand and dust storm events in Iraq. Natural Science, Vol.5 No.10, 2013.*

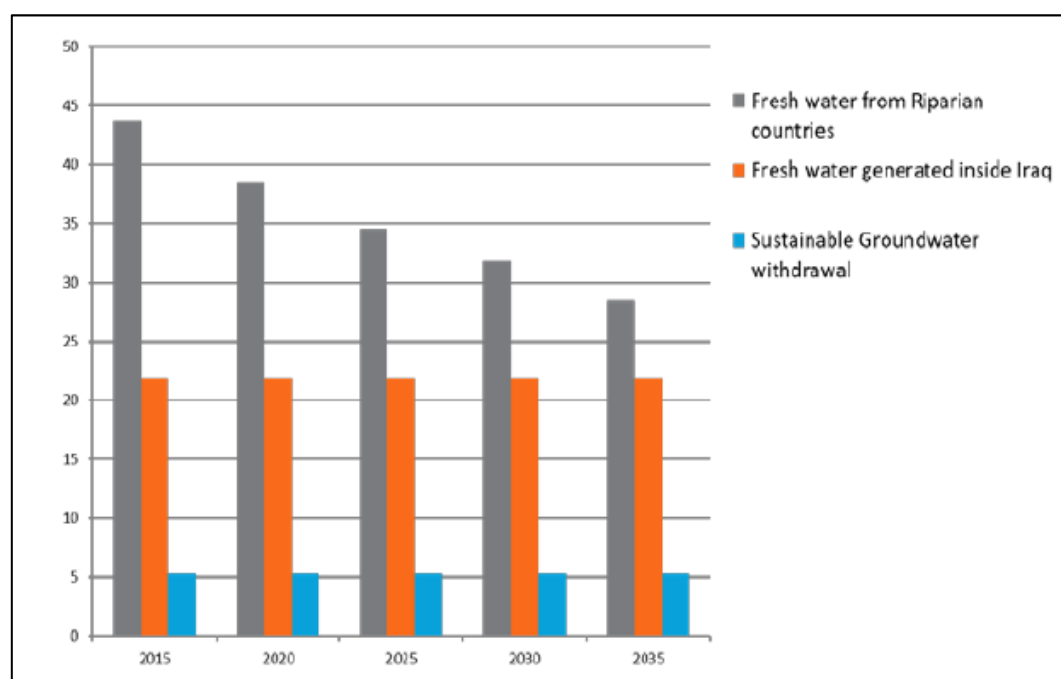
²² Nadhir Al-Ansari, 2016. Article published online in SciRes. Hydro-Politics of the Tigris and Euphrates Basins. <http://dx.doi.org/10.4236/eng.2016.83015>

²³ Except for few months of the year, the water in the rivers in central and southern Iraq contains in some location as high as 3000 ppm of dissolved salts and is considered brackish water according to FAO standards and can only lead to soil salinity and desertification when used for irrigation.

50 to 80% by 2025²⁴. In the recent years it has decreased to about 16.90 BCM (average of 1990-2012), or a decrease of 44.1%. For the Tigris, the inflow declined from 49.22 BCM for the period 1933-1998 to 32.64 BCM for the period 1999-2012. The decline in the inflow is due to over exploitation, climate change that clearly affects the region in general and Iraq in particular, and the Ataturk Dam in Turkey²⁵. Furthermore, rainfall in Iraq has decreased compared to past decades, which expanded desertification. The supply of rainfall will decrease from 43 to 17.61 BCM between 2015 and 2025, while current demand is estimated to increase (from 66.8 to 77 BCM)²⁶. The annual share of renewable freshwater resources per capita in Iraq declined from 4,587 m³ in 1964 to 998 m³ in 2014²⁷. In Iraq, the 2020-2021 rainfall season was the second driest in the last 40 years, and caused a reduction of water flow in Tigris and Euphrates by 29 percent and 73 percent, respectively²⁸.

Available surface water in the next 20 years is estimated to decrease by 17.64 BCM (24.5%) - of which 15.21 BCM is due to an increase in water demand outside Iraq²⁹. The annual share of renewable surface water resources per capita in Iraq declined from 4,587 m³ in 1964 to 1,953 m³ in 2015. It is expected to reach below 900 m³ by 2035³⁰.

Figure 4. Expected water supply sources and quantities in Iraq in the near future



Source: Iraq Energy Institute, 2018

Groundwater forms the second major source of water, which is represented by non-renewable aquifers. In general, groundwater does not satisfy the standards of drinking water except in northern Iraq and the west desert³¹. Good quality groundwater exists in the foothills of the mountains in the

²⁴ INDC. 2015.

²⁵ Ahmed A., 2019. PhD. Thesis, Arizona State University: Optimization Models for Iraq's Water Allocation System.

²⁶ IFAD-AF, 2018. Building Resilience of the Agriculture Sector to Climate Change in Iraq (BRAC). Project proposal. www.adaptation-fund.org/project/building-resilience-agriculture-sector-climate-change-iraq-brac-2/

²⁷ *Ibid.*

²⁸ UNICEF Press release. 2021. Running Dry: water scarcity threatens lives and development in Iraq.

<https://www.unicef.org/iraq/press-releases/running-dry-water-scarcity-threatens-lives-and-development-iraq>

²⁹ Mukhalad A. & al, 2019. Water resources projects in Iraq, Irrigation. Journal of Earth Sciences and Geotechnical Engineering, Vol.9, No. 4, 2019, 249-274. <https://www.researchgate.net/publication/337317793>

³⁰ *Ibid.*

³¹ Ahmed A., 2019. PhD. Thesis, Arizona State University: Optimization Models for Iraq's Water Allocation System.

northeast of the country and in the area along the right bank of the Euphrates. The safe yield of these aquifers is estimated at about 1.2 BCM annually, about 2 percent of the nation's annual water budget³². Some of the groundwater resource remains to be developed. Elsewhere in the country, groundwater exists but salinity is far too high for agriculture. Groundwater, depending on storage condition and underground flow, can be classified into five physiographic categories: mountains, highlands, Al-Jazeera (Upper Mesopotamia), the desert area and alluvial plain (Lower Mesopotamia). The use of groundwater in Iraq is low, ranging from 2 percent to 9 percent.

Marshlands are one of prominent geographical features of the sedimentary plain. The Iraqi marshes cover an area 15,000 -20,000 km². The area varies widely between the drought seasons and flood seasons due to the high rate of evaporation and the low depths. There are three major marshes containing smaller marshes inside. Hawizeh are the largest marshes, followed by central, or Qurnah marshes, and finally the Hammar marshes. Sixty percent of the fish consumed in Iraq comes from the marshes. By 2000, less than 10 percent of the marshland area remained³³.

The quality of **irrigation water** in Iraq is compromised by salinity and chemical contaminants. The MoEnv reported that severe water salinization of over 2,000 mg/l has already been observed at the downstream areas. The data monitored by MoEnv showed that the water salinity varies seasonally. The salinity level or Total Dissolved Solids (TDS) in the Euphrates River at the Syrian-Iraqi borders is 600 mg/l, which is already higher than the recommended level for irrigation. Recent estimates indicate that 4 percent of irrigated areas are severely saline, 50 percent are of medium salinity and 20% are slightly saline^{34,35}. Irrigable lands are largely located on the riverine plains – 67 percent is in the Tigris basin, 30% in the Euphrates, and 3 percent in the Shatt Al- Arab basin³⁶. About 64 percent of cultivated land is irrigated, of which 3.4 million hectares are under surface irrigation, 426,000 hectares under groundwater irrigation, and about 2.175 million hectares are rainfed.

Predicted **future climate conditions** will significantly reduce water availability in the spring/summer periods critical for crop production, causing marked reduction in runoff relative to input precipitation, increased evapotranspiration, decreased soil moisture, and increased soil salinity risk. Climate change will significantly affect rainfall patterns and temperature in Iraq, increasing the country's vulnerability to drought and environmental challenges. Mean annual temperature is projected to increase by 2°C by 2050 and mean annual rainfall is projected to decrease by 9 percent by 2050³⁷. The flow of the Tigris and the Euphrates is expected to decrease further by 2025, with the Euphrates declining by more than 50 percent and the Tigris by more than 25 percent³⁸. The effects of water scarcity will vary by region, with some regions suffering more from recurrent droughts and water shortages.

3.2.2 Climate change

An in-depth analysis of Iraq's climate can be found in the Working Paper on "*Climate Change and Environment in Iraq*" of the Full Project Funding Proposal and Feasibility Study, from which parts have been extracted for this section. Furthermore, detailed climate data has been developed and analysed, and can be found in FAO's 2021 "*SRVALI Project. Climactic Atlas of the Republic of Iraq at River Basin*,

³² Ali A. *et al.* 2016. *Groundwater use and policy options for sustainable management in Southern Iraq*. International Journal of Water Resources Development. Volume 33, 2017. Issue 4. <http://dx.doi.org/10.1080/07900627.2016.1213705>

³³ Mukhalad A. *et al.* Irrigation projects in Iraq. *Journal of Earth Sciences and Geotechnical Engineering*, Vol. 11, No. 2, 2021, 35-160. <https://doi.org/10.47260/jesge/1123>

³⁴ ESCWA & al. 2017. Arab Climate Change Assessment Report – Main Report. Beirut, E/ESCWA/SDPD/2017/RICCAR/Report.

³⁵ Iraq Energy Institute, 2018. Towards Sustainable Water Resources Management in Iraq.

³⁶ WB, 2014. Iraq Emergency Community Infrastructure Rehabilitation Project. ICR report.

³⁷ WB, 2021. Iraq Country Summary. Climate Change Knowledge Portal. World Bank. Washington, D.C. climateknowledgeportal.worldbank.org/country/Iraq.

³⁸ UN. 2013. Water in Iraq: Factsheet. United Nations Joint Analysis and Policy Unit. <https://reliefweb.int/sites/reliefweb.int/files/resources/Water-Factsheet.pdf>.

Country and Target Governorates Level”, which is Annex 16-A. to this GCF FFP. Both papers provide more detailed technical information on status and projections.

Overview. Iraq is one of the most vulnerable countries of the Middle East to climate change, as a result of its hydrological limitation, downstream access to water, and geographic location. Its ND-GAIN Country Index rank is 115 (out of 182 countries), with a score of 43.7³⁹.

Vulnerability scores measure a country's exposure, sensitivity and capacity to adapt to the negative effects of climate change; according to ClimateWatch data⁴⁰, Iraq's ND-GAIN vulnerability score is 0.44, ranking it 103 of 181 countries. Readiness scores measure a country's ability to leverage investments and convert them to adaptation actions, by considering economic readiness, governance readiness and social readiness; Iraq's ND-GAIN readiness score is 0.27, ranking it 165 of 192 countries. With a score of 143.16, Iraq ranks 157 out of 180 countries for the Climate Risk Index Score, which indicates a level of exposure and vulnerability to more frequent and/or more severe climatic events for which countries should prepare. It analyses to what extent countries have been affected by the impacts of weather-related loss events (storms, floods, heat waves etc.).

GHG emissions. Iraq's Greenhouse Gas (GHG) emissions in 2018 were estimated to be 216.19 Mt CO₂eq, representing an increase of more than 200% compared to 1990⁴¹. Of these emissions, the energy sector accounted for 186.56Mt CO₂eq, while agriculture represented 7.39Mt CO₂eq (3% of the total GHG emissions). In its Intended National Communication (2016), Iraq set the target to reduce greenhouse gas (GHG) emissions by 90 million Mt CO₂eq - 14% below business-as-usual (BAU) emissions between 2020 and 2035: 13 percent are conditional on receiving international support and 1% is unconditional (financed from Iraq's own resources). According to its first Nationally Determined Contribution (submitted in October 2021), the most important sectors through which Iraq will work to achieve the goals of its national contributions in reducing greenhouse gas emissions and diversifying the sources of its national economy are the oil, gas, electricity, industry, trade, agriculture, transportation, waste and housing sectors⁴².

Climate impacts. Iraq is already experiencing climate change impacts as a result of increased temperatures, precipitations changes and winds, as these cause increased soil salinity, loss of biodiversity, decreased yields and increased desertification⁴³. The country is also facing acute water scarcity due to river flow fluctuations and increasingly erratic rainfall patterns due to climate change⁴⁴. Based on climate data^{45,46} dry and dusty Sharqi winds are affecting southern parts of the country, from April to June and from September to November. These are exacerbated by climate change and cause drier air due to increased temperatures and decreased rainfalls, with an increase of sand and dust storms' occurrence; and by farming practices and mismanagement of water resources. This

³⁹ <https://gain.nd.edu/our-work/country-index/rankings/>

⁴⁰ <https://www.climatewatchdata.org/countries/IRQ>

⁴¹ ClimateWatch data. <https://www.climatewatchdata.org/countries/IRQ#climate-vulnerability>

⁴² https://www.climatewatchdata.org/ndcs/country/IRQ?document=first_ndc

⁴³ GoI. National Development Plan 2018-2022.

⁴⁴ <https://climateknowledgeportal.worldbank.org/country/iraq>

⁴⁵ *Ibid.*

⁴⁶ GoI. MoEnv. Iraq's Initial National Communication to the UNFCCC. 2016.

https://unfccc.int/sites/default/files/resource/316947520_Iraq-NC1-2-INC-Iraq.pdf

combination of factors contributes to desertification⁴⁷ and high evapotranspiration^{48,49}. Iraq's INC⁵⁰ reports a sharp increase in the dryness of the soil and depletion of ground water resources. Dust storms seriously affect crop production and quality, and droughts have become longer and more severe (e.g. 2009, 2018). The reported decrease of rainfall has resulted in the decline of the main rivers, decreased groundwater level, especially in desert areas, as well as a decrease in other water resources, such as springs and aquifers^{51,52}.

Trends in the target areas. The historical trends of key climatic variables such as temperatures (MIN and MAX), rainfall (total and monthly distribution) show that climate has changed and that observed trends will further worsen. Iraq's Initial National Communication (2016) used data from eight meteorological stations⁵³ to analyze recorded rainfall and temperature trends between 1941 and 2009. Regression coefficients of average annual temperature and rainfall⁵⁴ showed positive trends in temperatures and negative trends in precipitation⁵⁵.

FAO's 2021 analysis, using local meteorological data, shows that in the selected project governorates of Karbala, Muthanna and Najaf, in the 1980-2020 period, annual average temperatures increased between +0.52°C and +1.28°C⁵⁶, reaching a temperature above 25°C on average and precipitation decreased between -0.04mm and -9.64mm, with large increase in the last few years. Temperature trends in the target areas are show in Figure 5, below.

⁴⁷ Presently, 39% of the country's surface is estimated to have been affected by desertification, with an additional 54% under serious threat [Sissakian, 2013]

⁴⁸ Evapotranspiration refers to a combination of two separate processes whereby water is lost from (i) soil surface by evaporation and (ii) from the crop by transpiration.

⁴⁹ WFP. 2019. Iraq's Socio-Economic Atlas. https://docs.wfp.org/api/documents/WFP-0000110173/download/?_ga=2.232473183.1341205554.1611937061-1799787842.1611656555

⁵⁰ GoI. MoEnv. Iraq's Initial National Communication to the UNFCCC. 2016.

https://unfccc.int/sites/default/files/resource/316947520_Iraq-NC1-2-INC-Iraq.pdf

⁵¹ GoI. MoFA. 2018. Climate Change Profile Iraq. https://reliefweb.int/sites/reliefweb.int/files/resources/Iraq_3.pdf

⁵² RICCAR. 2017. https://archive.unescwa.org/sites/www.unescwa.org/files/publications/files/riccar-main-report-2017-english_0.pdf

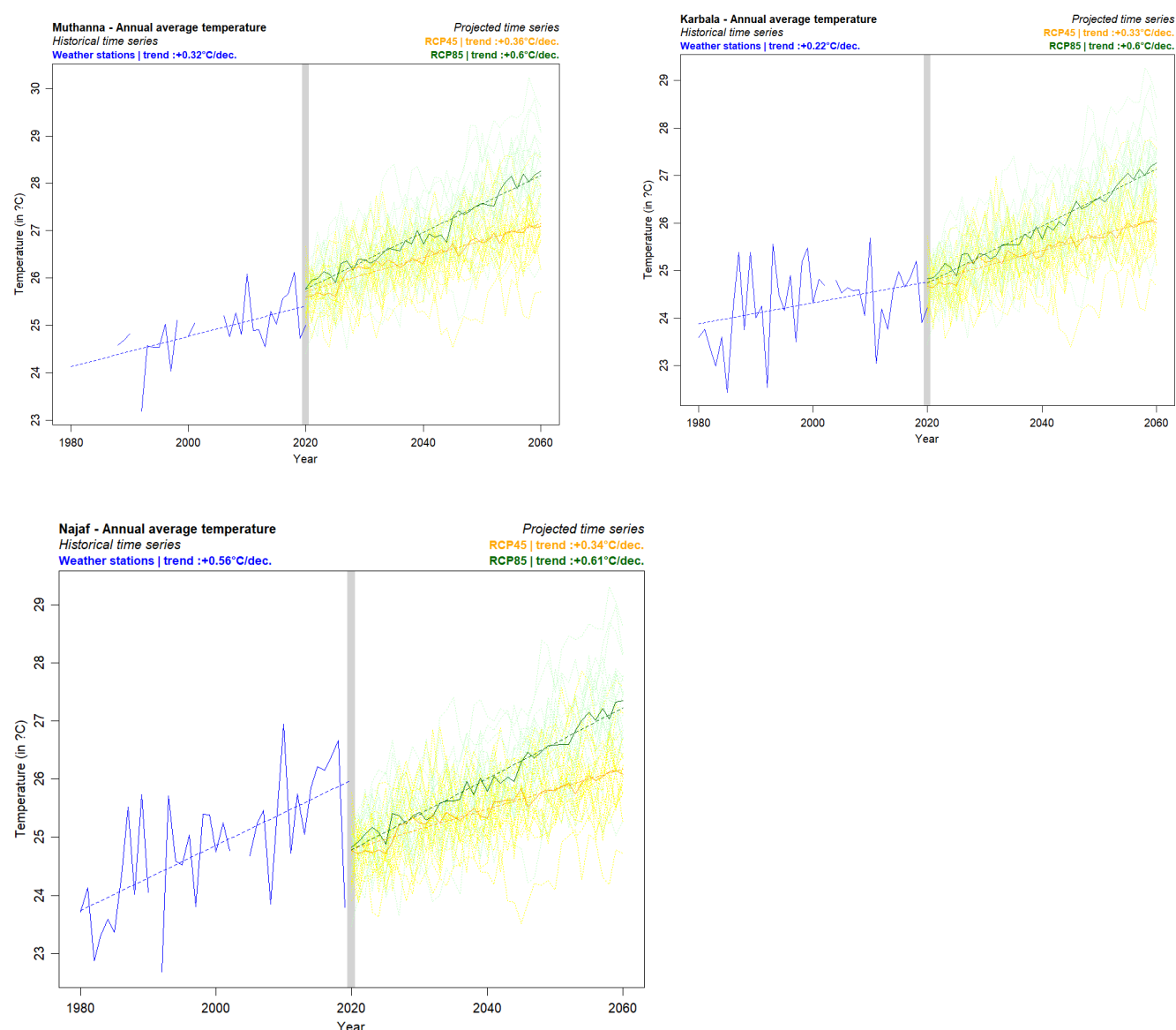
⁵³ Bagdad, Al-Rutba, Al-Hay, Diwaniya, Nasriya, and Basra are located in the desert zones, Mosul and Kirkuk are in the tropical/semi-dry climate zones.

⁵⁴ No exact value on temperature increases and precipitation decreases was shared in the INC, only regression coefficients.

⁵⁵ Regression coefficients showed a positive trend between +0.01°C and +0.05°C (per year) in annual temperatures⁵⁵. Between 1938 and 2009, total annual rainfalls decreased in most stations, with a regression coefficient between -0.31 mm and -1.35 mm per year (except in Nasiriya that recorded positive trends with +0.16 mm between 1941 and 2009, and in Al-Rutba with +0.19 mm between 1941 and 2002) [UNFCCC, 2017].

⁵⁶ As a complement, monthly average temperatures increased between -0.05°C (November) and +0.94°C (March) per decade in Muthanna, between -0.14°C (Karbala) and +1°C (August) in Karbala, between -0.24°C (February) and +0.66°C (March) in Najaf. In the same period, precipitations have been varying between +34.31mm (February) to -1.32mm (August) per decade in Muthanna, between -6.72mm (November) and +14.09mm (March) in Karbala, and between +18.68 mm (November) and -0.77 mm (January).

Figure 5. Annual average temperatures - historical and projected trends in the targeted governorates.



FAO's analysis of local meteorological data of the target governorates in 2021 indicates that annual average temperatures and Potential Evapotranspiration (PET) will increase in the 2020-2060 period in the RCP 4.5 and RCP 8.5 scenarios (Table 4), while no trends related to minimum temperature and precipitations could be confirmed⁵⁷.

Table 4. Historical and projected trends in the three governorates.

Variable	Table 1: Climate change historical trends (1980-2020) Projected trends (2040-2060) RCP 4.5 and 8.5 scenario projections, per decade		
	Karbala	Najaf	Muthanna
MEAN T °C	Trends: 23.88°C-24.74°C RCP4.5: +0.34°C RCP8.5: +0.6°C	Trends: 48.79°C-45.92°C RCP4.5: +0.34°C RCP8.5: +0.61°C	Trends: 24.13°C-25.37°C RCP4.5: +0.36°C RCP8.5: +0.6°C
MAX T °C	No significant historical trend RCP4.5: +0.42°C RCP8.5: +0.76°C	Trends: 48.79°C-45.97°C RCP4.5: +0.43°C RCP8.5: +0.73°C	No significant historical trend RCP4.5: +0.45°C RCP8.5: +0.73°C

⁵⁷ To be noted with regards to minimum temperature, only Karbala showed with -0.64°C per decade a change, while it was not possible to confirm trends in the other governorates and on the national level.

PET	No significant historical trend RCP4.5: +19.22 mm RCP8.5: +33.88 mm	No significant historical trend RCP4.5: +19.79 mm RCP8.5: +35.02 mm	No significant historical trend RCP4.5: +20.85 mm RCP8.5: +36.22 mm
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Future climate projections in Iraq show that the historical trends toward warmer temperatures will continue in the future. Based on the IPCC, 2013, RICCAR⁵⁸ reported that IPCC AR5 findings⁵⁹ show an increase by +2°C in the Arabic Peninsula by 2081-2100 compared to 1986-2005 period (RCP 4.5 scenario) or +2-3°C in 2050⁶⁰ (RCP 8.5 scenario)⁶¹. Based on the CORDEX MENA model, temperatures could increase by +2.25-2.75°C in winter and +2.75/3.25°C in summer in 2081-2100 (RCP 4.5 scenario), with peak increase of +6/6.25°C in summer under the RCP 8.5 scenario⁶². Annual rainfall will decrease by -3.50mm (-60.17mm to -63.69mm) in 2040-2059 (RCP 8.5, Ensemble) [WB, 2020], and decrease by -10% end of century compared to the 1986-2005 period (RCP 8.5 scenario)⁶³. FAO's analysis in 2021⁶⁴ reports that annual average temperatures will increase between +0.33°C and +1.32°C in the 2020-2060 period (RCP 4.5 scenario), while precipitations will decrease by -5mm per decade (RCP 4.5 scenario). Projections of annual temperatures in the three project target governorates are shown in Figure 6, below.

Given this climate scenario, the most exposed and vulnerable sector is **agriculture**. These climatic changes will cause a higher loss of cultivable land to desertification, occurrence of droughts and sand storms and higher salinization⁶⁵. The decline of the agricultural sector has already been accelerated by climate change, with a constant loss of arable land and productivity variation. Agriculture's overall contribution to GDP has decreased from 16.8 percent in 1968 to about 2 percent in 2019^{66,67}. Most of the agriculture production and food security of the country is guaranteed by smallholders, based on a mixed-farming system. The major crops include wheat and barley (rainfed) and rice, millet, corn, fruits and vegetables (irrigated)⁶⁸. Soil salinization and fertility are growing threats with of 70 percent of the cultivable land under threat from salinity. There are growing concerns that most of the agricultural land in Iraq will be converted to desert areas⁶⁹. Decreasing land productivity, reducing yields, food security and incomes threaten the livelihoods of most of the rural populations, reducing food provisions and increasing migration to cities. In particular, in the three target governorates, increased temperatures and precipitation fluctuations are expected to increase heat stress on crops, increase evapotranspiration, reduce soil moisture and increase soil salinization, and increase water crop requirements. These will increase crop failure risk and increase the dependence of crop production on irrigation water use, for all types of production systems in the three target districts.

Figure 6. Projected time series of the annual average temperature in the three target governorates

Time series over the 2020-2060 period. **In yellow (dotted line):** value for each projected model under the RCP4.5. **In orange (full line):** median value calculated over all projected models under the RCP4.5. **In light green (dotted**

⁵⁸ https://archive.unescwa.org/sites/www.unescwa.org/files/events/files/riccar_main_report_2017.pdf

⁵⁹ Temperature and precipitation projections are based on a global synthesis output from around 40 Global Climate Models (GCM) and Coupled Model Intercomparison Project Phase 5 (CMIP5) simulations. See https://www.ipcc.ch/site/assets/uploads/2018/02/WG1AR5_Chapter14_FINAL.pdf

⁶⁰ Additional information is provided in the Annex II, Feasibility study

⁶¹ *Ibid.*

⁶² Leliveld, J. *et al.* Strongly increasing heat extremes in the Middle East and North Africa (MENA) in the 21st century. *Climate Change*. 137, pages 245–260 (2016).

⁶³ RICCAR, 2017, based on the IPCC findings.

⁶⁴ FAO. 2021. Atlas of the climate in the Governorates of Karbala, Najaf & Muthanna in the Republic of Iraq.

⁶⁵ Adamo, N. *et al.* 2018. *Climate Change: Consequences on Iraq's Environment*. *Journal of Earth Sciences and Geotechnical Engineering*, vol. 8, no. 3, 2018, 43-58.

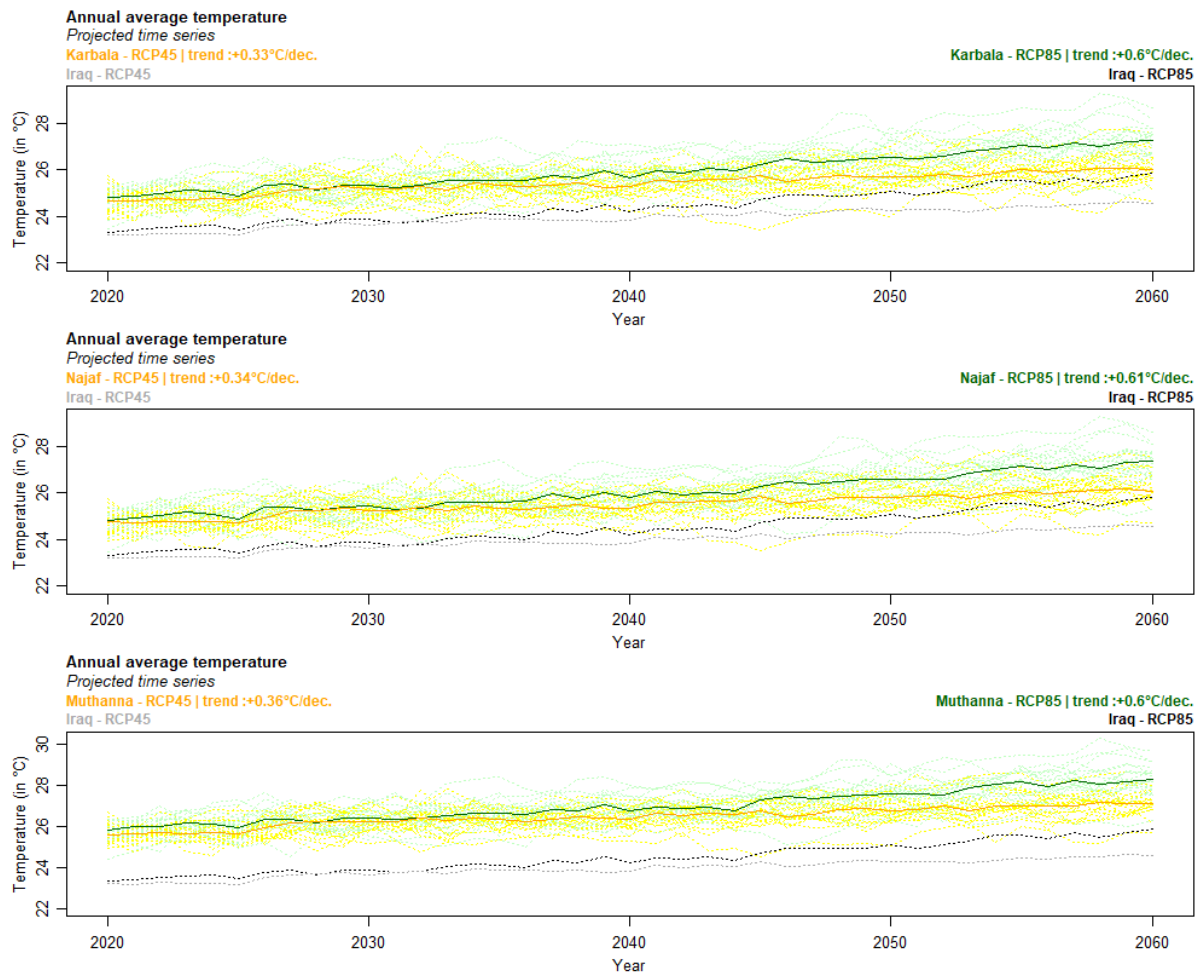
⁶⁶ USAID, 2017. Climate Change Risk in Iraq. Country Risk Profile.

⁶⁷ GoI. National Development Plan 2018-2022.

⁶⁸ The government was forced to prevent farmers to plant water demanding crops such as rice and corn [Indhar, 2018; MEA, 2018].

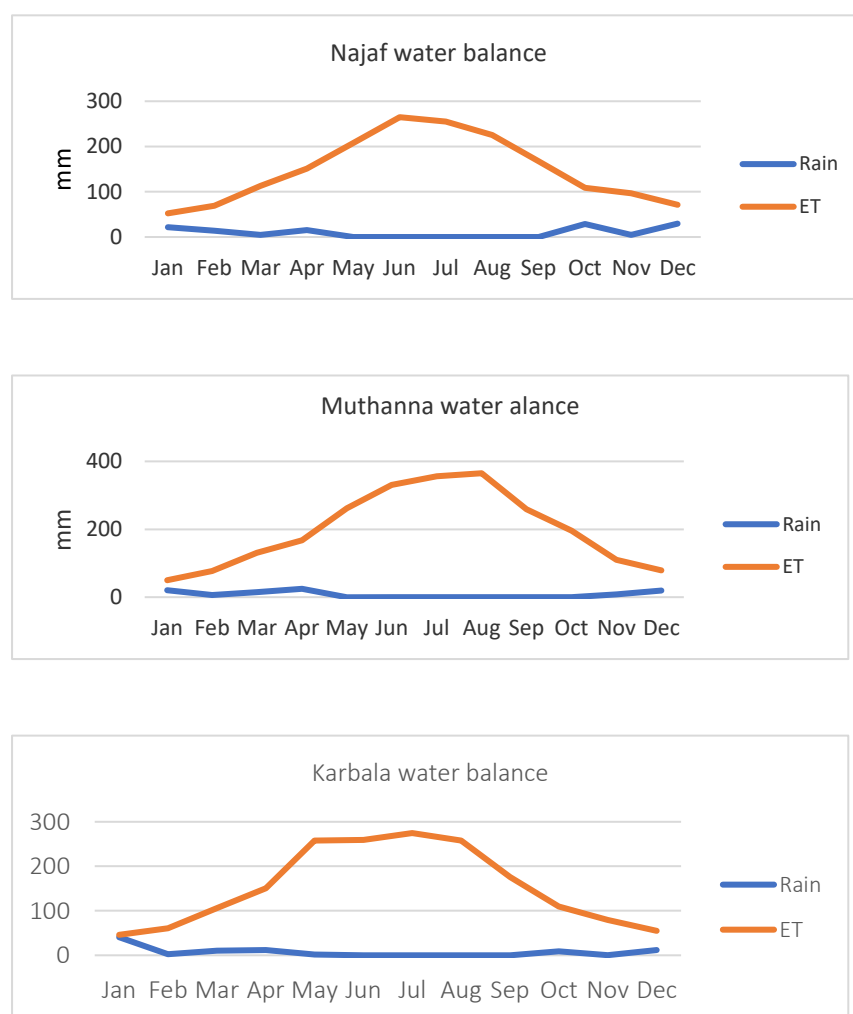
⁶⁹ Sissakian *et al.* *Sand and dust storm events in Iraq*. *Natural Science*, Vol.5 No.10, 2013.

line): value for each projected model under the RCP8.5. **In dark green (full line):** median value calculated over all projected models under the RCP8.5. **In grey (dotted line):** median value calculated over all projected models under the RCP4.5 scenario within Iraq, for comparison. **In black (dotted line):** median value calculated over all projected models under the RCP8.5 scenario within Iraq, for comparison. Data source: NASA Earth Exchange - Global Daily Downscaled Climate Projections (NEX – GDDP) (Thrasher et al., 2012).



The agricultural production systems in the three target governorates are highly dependent on water availability provided by the irrigation systems and groundwater. The current rainfall, which averages around 100 mm per year, does not meet the crops' water needs. In other words, crop production in these areas requires the provision of water through alternative sources to atmospheric precipitation (rain), which in practice translates into existing irrigation systems and groundwater obtained through the drilling of wells and subsequent pumping of the water. Figure 7 shows the water balance in each governorate.

Figure 7. Najaf, Muthanna and Karbala water balance.



Source: GCF FFP Working Paper: Rapid Agriculture Sector Assessment and Proposal of Component 2. Prepared using data from Google Earth Map.

3.2.3 Land degradation

The Government of Iraq reports that 28 percent of the country's land is arable, of which an average of 100,000 dunums is lost each year to degradation (Figure 8). Land degradation and soil erosion in Iraq are caused by anthropogenic factors such as unsustainable and marginal agricultural practices and the improper use of natural resources, and natural factors including soil salinity, sand dune movement and sand and dust storms. These last are the most common active phenomena causing desertification in Iraq; their frequency has increased drastically in the last decade and is projected to continue increasing especially as a consequence of climate change. Some studies indicate that around 1 million hectares of active sand dunes and sand sheets have been identified in central and southern

Iraq⁷⁰. During the Gulf wars, huge number of palm and other kinds of trees that offered a natural protection and barrier against the expansion of desertification were destroyed. At least 75 percent of the area of Iraq has been substantially affected by desertification. In addition, it is estimated that over 74 percent of the irrigated land is affected by salinity (Table 5)^{71,72} (UNCCD, 2017 and Iraq Energy Institute, 2018).

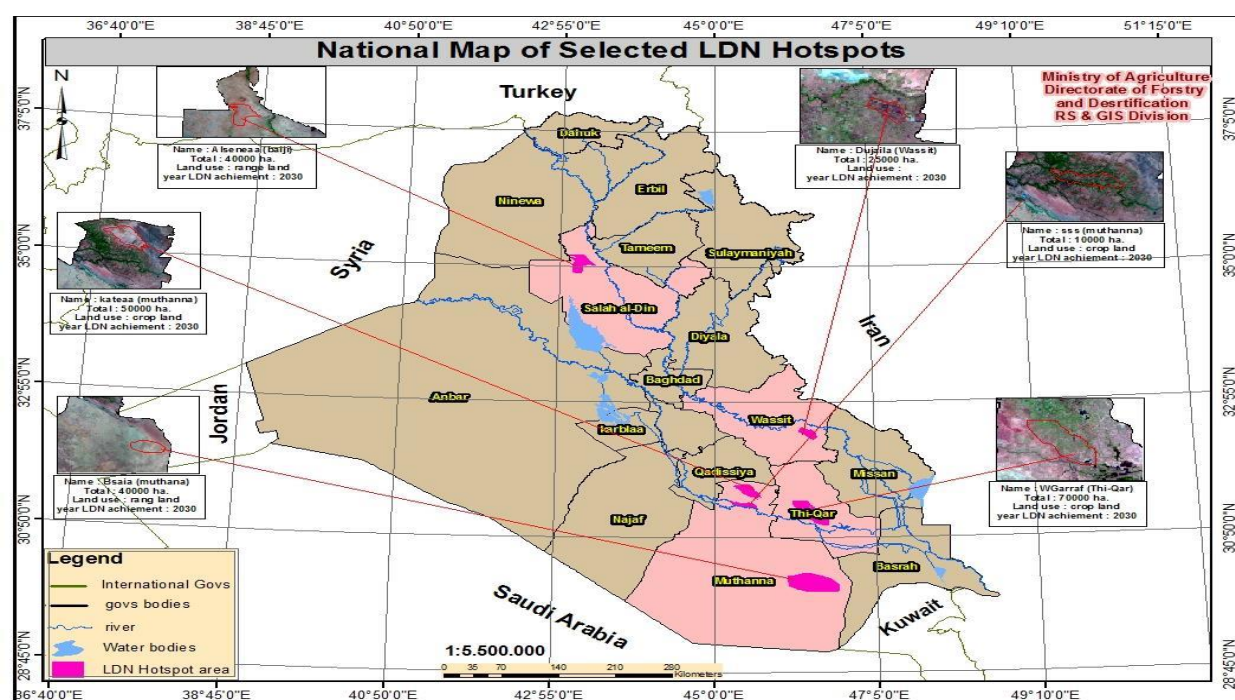
Table 5. Iraq soil salinity

Total affected irrigated areas	74%
Severly saline	4%
Mmedium saline	50%
Slightly saline	20%

Source. Iraq Energy Institute, 2018.

Poor irrigation practices and drainage systems have contributed to rising groundwater tables, which in turn have led to soil salinity-induced land degradation; central and southern Iraq are the most affected regions⁷³. Salinization has greatly affected land productivity and has caused cropland abandonment in these regions⁷⁴. About 75 percent of the irrigated area of the Mesopotamian plain (more than 2 million ha) is moderately saline and another 25 percent has levels of salinity that have converted once productive lands into salt-affected wastelands. Farmers of saline soils are using 30 percent of their land for cropping; they are 50% of the expected yields causing cropping systems to shift from high-value to lower-value crops⁷⁵.

Figure 8. Location of land degradation hot spots in Iraq.



Source: Ministry of Agriculture, Directorate of Forestry and Desertification. In Republic of Iraq. Ministry of Agriculture. 2017. [Land Degradation Neutrality Target Setting National Report](#).

⁷⁰ Gol. MoA. 2017. Land Degradation Neutrality Target Setting National Report.

⁷¹ UNCCD, 2017. Land Degradation Neutrality Target Setting National Report.

⁷² Iraq Energy Institute, 2018. Towards Sustainable Water Resources Management in Iraq.

⁷³ Government of Iraq. MoA. 2017. Land Degradation Neutrality Target Setting National Report.

https://knowledge.unccd.int/sites/default/files/ldn_targets/2019-08/Iraq%20LDN%20TSP%20Country%20Report.pdf

⁷⁴ Wu, W. *et al.* Mapping soil salinity changes using remote sensing in Central Iraq. *Geoderma Regional* 2–3 (2014) 21–31.

⁷⁵ IFAD-AF, 2018. Building Resilience of the Agriculture Sector to Climate Change in Iraq (BRAC). Project proposal. www.adaptation-fund.org/project/building-resilience-agriculture-sector-climate-change-iraq-brac-2/

3.2.4 Biodiversity

Iraq is a vast, biodiversity-rich and biogeographically diverse country which lies in southern Asia - because of its strategic location, it is considered an important link between the east and west, both as transportation and ecological corridors. The variety of natural habitats include lowlands, desert, steppes, plateaus and mountains, wetlands, coastal and marine habitats⁷⁶. In 2018, the World-Wide Fund for Nature assigned five terrestrial biomes and nine ecoregions in Iraq, where five (Zagros Mountain Forests-steppe; Middle East Steppe; Mesopotamian Shrub Desert; Tigris-Euphrates alluvial salt marsh; Arabian Desert and East Sahero-Arabain Xeric Scrublands) account for 96 percent of the total area of Iraq. Three freshwater ecoregions, the Arabian Interior, Lower and Upper Tigris and Euphrates River basins, and one Arabian Gulf marine ecoregion were also identified in Iraq.

The state of biodiversity in Iraq has been put under severe stress as a result of wars and the implementation of numerous projects on agricultural lands. For example, the fragmentation of agricultural lands has had a significant impact on decreasing green spaces as natural habitats of different living organisms. Furthermore, drying of the marshlands zone has directly affected the status of migratory species. Some of the main causes of the deterioration of biodiversity include overhunting; the impact of chemical and physical factors like high salinity in lakes and rivers; pollution, such as wastewater, air pollution, plant wastes and thermal pollution from power plants; and the introduction of invasive alien species⁷⁷. The top three threats impacting on the 648 species in Iraq linked with threats were: “Pollution”, “Biological Resource Use” and “Residential and Commercial Development”. One particularly prominent issue facing ecosystems and biodiversity in Iraq is water scarcity. This problem is a result of: (i) upstream dams substantially reducing river water from upstream countries; (ii) internal water management problems; and (iii) climate change⁷⁸.

In 2015, the GoI submitted its National Biodiversity Strategy and Action Plan 2015-2020. Iraq’s 6th National Report to the Convention on Biological Diversity reported that one 1,364 were assessed on the IUCN Red List of Threatened Species that are linked with Iraq. Seventeen mammal species out of 103 listed as threatened (18 percent threatened in Iraq) are categorized as Critically Endangered, Endangered or Vulnerable. Seventeen bird species out of 409 (5 percent threatened in Iraq) were categorized as Critically Endangered, Endangered or Vulnerable. Five out of 81 species of the reptiles and amphibians are listed as Threatened (6 percent threatened in Iraq). A total of 311 fish (23 from the class: Chondrichthyes and 288 from the class Actinopterygii) from Iraq are listed as threatened species (7 percent threatened in Iraq). 252 plant species have been recorded in Iraq; two species are listed as Threatened both as ‘Endangered’. The proportion of species in Iraq, which were classified as declining, are fewer than the global average (i.e. fewer species are declining in Iraq relative to the global average). Coral reefs are one of the most vulnerable ecological habitats in Iraqi waters and are located within a narrow strip (58 km) of the northern coast of the Arabian Gulf. Forest account for only around 1.4 percent of Iraq’s total land area⁷⁹.

3.3 SOCIO-ECONOMIC CONTEXT

3.3.1 National context

Iraq is an oil-rich upper middle-income country in the region with a population of around 40.2 million growing at 3% per year and of which 29.1% are rural. The per capita Gross National Income (GNI) amounted to USD 4,660 in 2020. The 2020 Gross Domestic Product (GDP) is 167,224 billion, of which

⁷⁶ GoI. MoEnv. Iraq’s National Biodiversity Strategy and Action Plan 2015-2020.

⁷⁷ GoI. MoEnv. National Environmental Strategy and Action Plan 2013-2017.

⁷⁸ GoI. MoEnv. 6th National Report to the Convention on Biological Diversity

⁷⁹ Ibid.

the agriculture sector accounts for 6.07%. Iraq ranked 123⁸⁰ out of 189 countries on the UN Human Development Index in 2020; 154⁸¹ out of 156 on the Global Gender Gap Index; and 146⁸² on the Global Inequality Index (GII). Unemployment rate is 13.02 percent nationally (2017 statistics). Youth (15-24 years) unemployment is high at 25.16 percent in 2019⁸³. According to 2018 data, only 18.1 percent of women over 15 years are economically active compared to 74.1 percent of men⁸⁴.

3.3.2 Socio-Economic Profile of Target Governorates

3.3.2.1 Population

The latest population estimate (modeled) puts the total population of the three governorates around 3.6 million. Women constitute around 49.5% of the total population in the country with target governorates recording slightly higher percentages than the national average (49.6 to 49.9 percent). Overall, the three governorates are among the less populated governorates in Iraq. Among the three governorates, Najaf is the most populated (1.5 million) and Muthanna has the least number of people (0.8 million).⁸⁵

Table 6. Population of target governorates: Karbala, Najaf, and Muthanna

	Total Population	Women	Men	Share of Female (%)	Avg. HH Size ⁸⁶	Population Share (%)	Total Number of Villages ⁸⁷
Karbala	1,250,806	619,831	630,975	49.6	6.3	3.2	288
Muthanna	835,797	415,805	419,992	49.7	7.6	2.1	538
Najaf	1,510,338	753,091	757,247	49.9	6.3	3.9	489
National	39,127,889	19,359,565	19,768,324	49.5	6.0	--	--

Source: Central Statistical Organization (CSO), Ministry of Planning, Government of Iraq, 2019 / Data on Average HH Size is taken from Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2016, World Food Programme and CSO, Government of Iraq / Data on number of villages taken from Governorate Rural Development Surveys (2017)

According to a World Bank poverty mapping study (2015), Muthanna is the poorest governorate in Iraq, and proportion of poor Iraqis in Muthanna is nearly triple that of Iraq's national average (6.4 percent versus 2.1 percent).⁸⁸ In addition, an overwhelming majority of households in the three governorates receive Public Distribution System (PDS) Ration Cards.⁸⁹ After the outbreak of the COVID-19 pandemic, overall poverty has increased by 11.7 percent, making the poverty rate 31.7 percent compared to 20.0 percent in 2017-2018.⁹⁰ This translates to 4.5 million additional of poor because of the crises, adding to the 6.9 million already living in poverty before the crisis.⁹¹

⁸⁰ UNDP, *Human Development Report*, 2020; <http://hdr.undp.org/sites/default/files/hdr2020.pdf>.

⁸¹ World Economic Forum, *Global Gender Gap Report*, 2021; http://www3.weforum.org/docs/WEF_GGGR_2021.pdf.

⁸² Global Inequality Index (2020); http://hdr.undp.org/sites/default/files/2020_statistical_annex_table_5.xlsx.

⁸³ World Bank statistics. <https://data.worldbank.org/country/iraq>

⁸⁴ UNDP, Gender Inequality Index, 2018; <http://hdr.undp.org/en/composite/GII>

⁸⁵ Central Statistical Organization, Ministry of Planning, 2019

⁸⁶ Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2016, World Food Programme (WFP), FAO, Central Statistical Organization, Government of Iraq

⁸⁷ Source: Respective Governorate Rural Development Survey, 2017, CSO, Ministry of Planning, Government of Iraq

⁸⁸ Where are Iraq's Poor: Mapping Poverty in Iraq (2015)

<https://documents1.worldbank.org/curated/en/889801468189231974/pdf/97644-WP-P148989-Box391477B-PUBLIC-Iraq-Poverty-Map-6-23-15-web.pdf>

⁸⁹ Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2016

⁹⁰ Assessment of COVID-19 Impact on Poverty and Vulnerability in Iraq (July, 2020), World Bank, UNICEF, Government of Iraq <https://www.unicef.org/iraq/media/1181/file/Assessment%20of%20COVID-19%20Impact%20on%20Poverty%20and%20Vulnerability%20in%20Iraq.pdf>

⁹¹ *Ibid.*

Najaf is mostly inhabited by Shiites, and took in internally displaced people from the North (during ISIS take over, as Shiite Muslims were a minority there). Najaf is highly religious and considered a conservative and a masculine tribal community (with women's primary role as caregivers). Najaf also took in internally displaced people from the South because of the effects of climate change in the South, and the decreases of marshlands and water circumstances in the South. The population is mainly youth. Karbala is also mostly populated by Shiites; it is highly religious and receives a lot of religious tourism. As in Najaf, Karbala is also a traditional masculine tribal community. Karbala also took in internal migrants from the South because of the effects of climate change in the South, and the decreases of marshlands and water circumstances in the South. It also took in migrants from Muthanna because of poverty. The population is mainly youth. Muthanna is mostly inhabited by Shiites, with a Sunni minority. It is also a masculine tribal community but slightly less conservative as compared to Najaf and Karbala. Families from Shiite communities migrated to Najaf and Karbala because of the poor living conditions in Muthanna. The population in Muthanna is largely composed of youth.

Table 7. Poverty and vulnerability

	Multi-dimensional Vulnerability Index⁹² (MVI)	Share of Poor (%) based on MVI	HHs Receiving Public Distribution System Ration Cards (%)
Karbala	0.143	2.9	98.1
Muthanna	0.258	3.1	98.8
Najaf	0.145	3.6	99.3
National	0.173	--	94.7

Source: COVID-19 Impact on Poverty and Vulnerability (2020) / Data on PDS Ration Cards is taken from CFSVA 2016, WFP and CSO, Government of Iraq

3.3.2.2 Employment

Muthanna has one of the highest unemployment rates, 14.5 percent, among the three governorates. The unemployment rate is roughly 9.5 percent in Najaf and 7.1 percent in Karbala. Within the three governorates, women's unemployment is highest in Najaf, 31.4 percent, which is significantly greater than the national average of 22 percent. In comparison to 81 percent at the national level, nearly 90 percent of women (excluding IDPs) are out of the labour force in Muthanna, 79 percent in Najaf, and 76 percent in Karbala; women's labour force participation is markedly low in the target governorates and unemployment is a significant national issue.⁹³

Table 8. Labor force participation and employment rates

	Unemployment Rate (%)			Labor Participation Rate (%) (residents / excluding IDPs)			Out of Labor Force (%) (residents / excluding IDPs)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
Karbala	4.5	27.8	7.1	78	16	70	21	76	27
Muthanna	14.0	18.6	14.5	70	10	63	25	90	32
Najaf	6.5	31.4	9.5	80	19	74	18	79	25
National	8.5	22.2	10.8	81	16	74	17	81	24

Source: Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2016, WFP and Government of Iraq

⁹² A multidimensional index tailored to measure social deprivation in dimensions affected by the crisis. The index includes four dimensions measured at household level, namely education and health dimensions capturing access to services, and living conditions and financial security dimensions capturing household living standards and resilience to cope with shocks.

⁹³ Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2016, World Food Programme (WFP), FAO, Central Statistical Organization (CSO), Government of Iraq

3.3.2.3 Food Security

The majority of the area in Najaf and Muthanna is categorized as Drought Prone Desert Area, while Karbala is considered Food Deficit Semi-Arid Rangelands.⁹⁴ Although the proportion of food insecure households in Karbala and Najaf and comparatively is lower than Muthanna, the share of households vulnerable to food insecurity is alarmingly high in all three governorates—65 percent in Karbala, 67 percent in Muthanna, and 87 percent in Najaf.⁹⁵

Table 9. Food security

	Food Security Zone	Food Secure HHs (%)	Marginally Food Secure HHs / Vulnerable to Food Insecurity (%)	Food Insecure HHs (%)
Karbala	Food Deficit Semi-Arid Rangelands	28.9	65.2	5.9
Muthanna	Drought Prone Desert Area	22	66.7	11.3
Najaf	Drought Prone Desert Area	10.3	87.3	2.5
National	--	44.3	53.2	2.5

Source: CFSVA 2016, WFP, FAO and Government of Iraq / Data on Food Security Zones taken from Iraq Socio-Economic Atlas, WFP (2019)

3.3.2.4 Education

Illiteracy is widespread in the target governorates, especially among women, and the prevalence rate is highest in Muthanna (30 %).⁹⁶ In Karbala, 22 % women are illiterate as compared to 14 % men. Although the completion rates vary in the target governorates, the trend of decreasing completion rates as the level of education increases is common to all, i.e., primary level completion rates are nearly twice that of upper secondary level. In Karbala, 72 % of students completed primary level education, 43 % graduated from lower secondary, and 39 % completed upper secondary.⁹⁷ The education completion rates are even lower in the other two governorates, where merely 24 % completed upper secondary in Muthanna and 37.5 % completed it in Najaf.⁹⁸

As for gender disparities, percentage of total completion rates of primary and upper secondary education is higher for boys than for girls, whereas, it is slightly higher for girls at the lower secondary level than boys are. Moreover, completion rates for all three levels of education is higher in urban areas and households in high wealth quintiles.

Table 10. Illiteracy and completion rates (primary to upper secondary)

	Illiterate (%) (>= 6 years of age)	Illiterate – male (%)	Illiterate – female (%)	Completion Rates – Primary	Completion Rates – Lower Secondary	Completion Rates – Upper Secondary
Karbala	17.8	14.2	21.6	71.7	43.4	39.0
Muthanna	30.3	22.7	37.8	68.7	29.9	23.9
Najaf	20.5	15.4	25.8	64.7	39.9	37.5
National	17.8	12.9	22.8	75.7	46.4	44.3

⁹⁴ Iraq Socio-Economic Atlas, World Food Programme (2019)

⁹⁵ Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2016, WFP, FAO, CSO Government of Iraq

⁹⁶ Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2016, WFP, FAO, CSO Government of Iraq

⁹⁷ Iraq Multiple Indicator Cluster Survey (MICS) 2018, CSO, Government of Iraq and UNICEF

⁹⁸ *Ibid.*

Source: Data on illiteracy taken from CFSVA 2016, WFP, FAO, CSO Government of Iraq / Data on completion rates taken from Iraq Multiple Indicator Cluster Survey (MICS) 2018, CSO, Government of Iraq and UNICEF

3.3.2.5 Youth

The prevalence of youth illiteracy and unemployment is highest in Muthanna than Najaf and Karbala. While the overall youth literacy rate in Karbala and Najaf is between 75 to 85 percent, it is less than 75 percent in Muthanna. Likewise, the literacy for young women is less than 65 percent in Muthanna, nearly 10 percent less than that of the other two governorates (75.1 to 80 percent).⁹⁹

The youth unemployment rate in Muthanna hovers in the range of 21 to 25 percent, whereas, the rate is somewhere between 11 to 15 percent in Karbala and Najaf. Interestingly, young women's unemployment rate is significantly greater in Karbala, 51 to 60 percent, than the other 2 governorates, 36 to 40 percent. Still, Young men's unemployment rate is considerably higher in Muthanna, 16 to 20 percent, while it is less than 10 percent in Karbala.¹⁰⁰

3.3.2.6 Gender

The percentage of women-headed households at the national level is 9.9 percent, 10.3 percent in urban and 8.6 percent in rural areas.¹⁰¹ The rise in female-headed households, from 7.7 percent in 2010¹⁰² to nearly one in ten households now, is a result of the increasing death rates among men due to deteriorating security situation and the escalation of violence in the country, immigration, and the change in the pattern of social and economic relations with the loss of the family's breadwinner. Twelve percent of households in Karbala are women-headed, 11 percent in Muthanna, and 11 percent in Najaf. Moreover, women-headed households that own or have control over of farmland is comparatively higher in Muthanna and Najaf (5 to 8 percent) than Karbala (1 to 4 percent). Similarly, a significantly greater percentage of women-headed households' own livestock in Muthanna (5 to 10 percent) than Karbala and Najaf (0.1 to 5 percent)¹⁰³.

Table 11. Female-headed households

	Female-headed households (%)	Female headed households that owned or had control of farmland (%)	Female-headed households that owned livestock (%)
Karbala	11.6	1 - 4	0.1 - 5
Muthanna	11.5	5 - 8	5.1 - 10
Najaf	10.6	5 - 8	0.1 - 5

Source: Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2016, WFP, FAO, CSO Government of Iraq

Rural women constitute about a third of Iraq's women population; they are likely to be more economically active than women in urban areas but they also face greater food insecurity, barriers to education, and participate more in the informal—and therefore unprotected by Iraq's equal opportunity laws—economic sphere. Uneducated women in rural areas have a much higher incidence of poverty and are less likely to be involved in skilled labor than women in urban areas. Despite the advancement of rural women, the prevalence of traditional practices limits the degree of their involvement in development programmes and access to credit, which prevents them from inheriting or acquiring land as well as accessing healthcare and social services, and participating in decision-

⁹⁹ *Ibid.*

¹⁰⁰ Iraq Socio-Economic Atlas, World Food Programme (2019)

¹⁰¹ Poverty Monitoring and Evaluation Survey in Iraq for the year 2017/2018

¹⁰² CSO, Iraq the results of Buildings, Dwellings and Establishment Census and Households Listing within the Project of Population and Housing Census (PHC), 2010.

¹⁰³ Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2016, WFP, FAO, CSO Government of Iraq

making processes at the community level.¹⁰⁴ Rural women have limited access or control over resources, education, formal employment opportunities, and are gravely underpaid¹⁰⁵.

Discussions with local non-governmental organizations (NGOs) working in target governorates reveal that women are involved in the complete farming life cycle, from cultivation to selling produce, i.e., there are few stages or activities exclusive to men now. Particularly in Karbala and Najaf, women play a lead role in the agriculture sector, sharing the responsibility of land preparation (women operate tractors in Karbala), planting/sowing, irrigation, applying fertilizer, weeding, harvesting, and even marketing. While women do not participate in land preparation and marketing produce in Muthanna, it is generally the women's responsibility to manage family's livestock and poultry in the governorate.

Table12. Division of agricultural activities by gender

	Land Preparation / Ploughing		Seed Sowing / Planting		Irrigation / Fertilizer / Weeding		Harvesting / Threshing / Storage		Marketing		Rearing Livestock	
	F	M	F	M	F	M	F	M	F	M	F	M
Karbala	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NEI ¹⁰⁶	NEI
Muthanna		✓	✓	✓	✓	✓	✓	✓		✓	✓	NEI
Najaf	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	NEI	NEI

Source: Consultation with Iraqi NGOs operating in target Governorates

Gender and climate change. Iraq's Central Statistics Administration's data reveal that women are dealing with the shrinking of agricultural space due to drought and desertification. For example, in a drought situation, women and girls bear the increased burden of fetching water and facilitating other basic household needs from longer distances as water resources dry up¹⁰⁷. The increasing incidence of drought and water scarcity places an increased burden on women both for food production and in fetching water for basic household needs¹⁰⁸. There is a paucity of data or studies on the impact of climate change on women in Iraq, their coping strategies and their potential role as agents to mitigate effects of climate change. One study in the Near East and North Africa region¹⁰⁹ noted that a key challenge for policy and decision-makers and development partners is to understand the strategies adopted by rural women and men to address climate change impacts on agriculture and rural communities. In the Near East and North Africa region, including Iraq, both women and men work in agriculture with different levels of responsibilities and workloads, which are likely to increase with climate change. Women's productive and reproductive roles are not sufficiently recognized or accounted for in climate change mitigation and adaptation efforts, or in the context of natural disasters influenced or exacerbated by climate change both at the national and regional levels. Women generally face higher risks and more problems due to the impacts of climate change on existing poverty. Women are significantly affected by water scarcity due to their role in managing both domestic and productive water use. Their unequal participation in decision-making processes and labour markets compound inequalities and often prevent women from contributing fully to climate-related planning, policy-making and implementation. The study highlights the pressing need to identify women's roles and

¹⁰⁴ United Nations Country Team (Iraq), *Report to the Convention on the Elimination of all forms of Discrimination Against Women Committee (Confidential)*, 2019.

¹⁰⁵ CSO, Ministry of Planning, Government of Iraq, *The Reality of Rural Women in Iraq*, 2019.

¹⁰⁶ NEI: Not enough information was provided in the discussions on this aspect

¹⁰⁷ UN Women & Oxfam. *Gender Profile – Iraq: A Situation Analysis on Gender Equality and Women's Empowerment in Iraq*, 2018.

¹⁰⁸ Government of Netherlands, *Climate Change Profile – Iraq*, 2018;

https://reliefweb.int/sites/reliefweb.int/files/resources/Iraq_3.pdf

¹⁰⁹ FAO. 2017. Regional Gender Equality Strategy for the Near East and North Africa 2017-2020.

constraints in irrigation and agricultural development and management in the context of climate change, to analyse their priority needs, and raise awareness of the major challenges facing women and men as regards water resource management and climate change adaptation and mitigation. The study maintains that the most critical points to consider for the Near East and North Africa, including Iraq, are: 1) women's challenges in water, agriculture and climate change adaptation; 2) water governance, irrigation system expansion and extension services; 3) gender mainstreaming in water governance and adaptation; and 4) women's participation and empowerment in water governance and climate change adaptation.¹¹⁰

3.2.4 Land access

Land tenure arrangements vary by governorate¹¹¹. The landholding system in Iraq is a mixture of privately owned land, lease-holding and sharecropping arrangements. In the rural areas of the poorest governorates, smallholder farmers and livestock producers are the most marginalized households with unemployed young men and women the most vulnerable. Agriculture is mostly practiced by smallholder farmers and is a low input-low output system. In rainfed areas, smallholders' holdings range from 2.5 to 7.5 hectares. In irrigated areas, smallholders hold less than four hectares. Overall, smallholders account for 35 percent of total number of farmers in Iraq. However, in parts of southern Iraq, smallholders account for 60 percent of the total farming population. The division of land through inheritance causes a risk of excessive fragmentation, further reducing scale and profitability of farming¹¹². The authority of traditional farmer organizations (WUAs, Cooperatives, farmer associations, etc.) has weakened due to the unrest of the last two decades, and the various land reforms that fragmented ownership including tenure reform associated with irrigation development.

The vast majority of agricultural households in Kerbela do not own the land but retain control of use of the land (70.8 percent), and 13 percent farm on government owned land. In the case of Muthanna, 44.5 percent agricultural households contract farmland, while 39.7 percent own it; this is the highest proportion of households who own land among the three governorates. Similarly to Karbala, nearly half of the agricultural households in Najaf do not own the land but control it (48.6 percent), while a significant proportion, 10.9 percent, rents it without a contract.¹¹³

Table 13. Agricultural Households Access to Land.

	Agricultural households (%) – Own land	Agricultural households (%) – Not owned but has control	Agricultural households (%) – Contracted	Agricultural households (%) – Government land	Agricultural households (%) – Rented without contract
Karbala	16.1	70.8	0.1	13.0	0.0
Muthanna	39.7	4.4	44.5	4.7	6.7
Najaf	28.6	48.6	10.3	1.6	10.9
National	46.6	20.7	25.1	3.4	3.8

Source: Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2016, WFP and Government of Iraq.

¹¹⁰ FAO, *Regional Gender Equality Strategy for the Near East and North Africa for the Near East and North Africa 2017-2020*, 2017; <http://www.fao.org/3/a-i7116e.pdf>

¹¹¹ Food and Agriculture Organization of the United Nations (FAO) and Islamic Relief (2014). Rapid Resilience Assessment of Farmers in Northern Iraq. September 2014. Available from <https://www.humanitarianresponse.info/operations/iraq/assessment/rapid-resilience-assessment-farmers-northern-iraq>.

¹¹² *Ibid.*

¹¹³ Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2016, WFP, FAO, CSO Government of Iraq

In Karbala Governorate, most of the owners of agriculture fields divided their plots of land to build houses, which has resulted in substantial arable land becoming residential areas. People in Iraq have a strong preference to own a home, especially in Karbala City, which attracts scores of tourists (shrines), and locals who want to participate in annual (Ashura) or weekly (every Thursday) religious ceremonies. The loss of agriculture land to residential communities resulted in mass unemployment of field hands, both men and women. To address the issue of unemployment, the Governorate decided to divide plots of desert to people interested in the field of agriculture. The Governorate has succeeded in reclaiming desert for farming, which includes men, women, and children working together to produce various foods (dates, tomatoes, wheat)¹¹⁴.

With regards to water rights, Iraq's 2008 Water Law No 50 is the legislation on water management and use. In Iraq, water is a publicly owned good that can be exploited through procurement of a license. The Water Authority defines the amount of time and duration of use rights. The law sets the order of priority for water exploitation and defines the pathways to define, develop, grow, and utilize the country's water resources. The law also lists other aspects of water regulation, including ownership, management responsibilities, licensing, resource preservation from pollution, and trans-boundary water resource management.

4. POLICY AND LEGAL FRAMEWORKS

The following chapter provides an overview of Iraq's existing national policy and legal framework, and nationally signed and ratified international treaties, as applicable to the SRVALI project.

4.1 IRAQ'S REGULATORY FRAMEWORK

The SRVALI project is designed to support the Republic of Iraq's policies, regulatory framework and strategies to ensure strong country ownership. The SRVALI objectives are closely aligned with national policy objectives and international climate change commitments of the Government of Iraq, including its [Initial National Communication \(INC\) to the UNFCCC](#) and recently submitted first [Nationally Determined Contribution \(NDC\)](#), the Iraq Vision 2030, [National Development Plan \(2018-2022\)](#), [Strategy for the Reduction of Poverty in Iraq \(2018-2022\)](#), [National Environmental Strategy and Action Plan \(NESAP\) \(2013-2017¹¹⁵\)](#), [Strategy of Water and Land Resources in Iraq \(SWLRI\) \(2013\)](#), [The Strategic Plan of the Ministry of Agriculture \(2015-2025\)](#), [Integrated National Energy Strategy \(INES\) 2013-2030](#), and [Land Degradation Neutrality \(LDN\) targets](#). The project is aligned with the adaptation measures and programs identified in the INC and NDC for improving the efficiency of field irrigation, using plants that are tolerant to drought and other global warming effects, and enacting legislation to rationalize water use.

The Iraq Vision 2030. The Vision embraces a new social contract between the state and its citizens to enhance their trust in the government and provide opportunities for self-development, work and generating income. The state seeks to develop the economic activities and pave the way of reforms, which tackle past challenges and provide needed development strategies in light of the external and internal challenges and national capacities - particularly a diverse people, natural resources and a strategic location. The Vision meets the UN sustainable development pillars of people, prosperity, planet earth, peace and partnerships. Five national goals are part of Iraq's Vision: human capacity, good governance, a diversified economy, safe society, and sustainable environment.

National Development Plan (2018-2022). The National Development Plan (NDP) is the overarching development plan for the nation. It identifies four main challenges, namely institutional, economic, social and environmental. Within the environmental challenges, desertification, climate change and

¹¹⁴ Notes from the GCF FFP NGO consultation, prepared by Aimen Shahid.

¹¹⁵ Currently being updated.

reliance on non-renewable energy are, among others, highlighted. The NDP outlines ten Sectoral Development Objectives, each with their own “sub-objectives”. The Sectoral Objectives include, among others, agriculture and water resources sector (including securing the annual demand for water for sustainable uses); energy and transformative industries (including the electricity sector); human and social development (including women’s empowerment); and environmental sustainability (including terrestrial ecosystems and climate change).

Strategy for the Reduction of Poverty in Iraq (2018-2022). The Strategy for the Reduction of Poverty in Iraq (PRS) adopts the 2030 Sustainable Development Goals as a general framework. Within that, the PRS has a goal of reducing poverty by at least 25 percent by 2022. The Strategy formulates a plan to contribute to improving standards of living, protection against risks and hazards, and economic empowerment to turn the poor into productive individuals who are economically and socially integrated, rather than being dependent on others. In this context, the Strategy adopts six outcomes (and 32 associated activities) that represent the key dimensions of poverty, including “sustainable income for the poor from work”. This includes supporting factors for increasing productivity of agricultural work be made available to the poor through the provision and maintenance of infrastructure supportive to production and marketing, setting programmes to train farmers on modern agriculture and irrigation techniques and reviewing the package of agricultural legislation and policies in favour of poor farmers.

Climate change

Initial National Communication (INC) to the UNFCCC. Iraq’s 2016 INC is its first submission to the UNFCCC, and highlights that in Iraq, the current climate change impacts are substantial and alarming. It presents the national socio-economic, environmental and sectoral contexts; GHG inventory; addresses vulnerability and adaptation; and addresses mitigation. The vulnerability of water and agricultural resources to climate change are addressed, and adaptation measures presented – including, for example, water use rationalization. It acknowledges that agriculture is the sector that consumes most water, hence a host of adaptation measures are elaborated included using modern methods of managing field irrigation, or using crop varieties adapted to drought.

First Nationally Determined Contribution (NDC)^{116,117,118.} Iraq’s first NDC was submitted to the UNFCCC in October 2021. It is a nationwide sectoral document aiming at representing Iraq’s supreme policy in dealing with climate change. The NDC focuses on the following sectors, considered the most affected by climate change: (i) water resources; (ii) agriculture; (iii) health; (iv) natural systems and forests; (v) coastal areas and sea level rise; (vi) sewage and waste sector; (vii) climate, recurring and slow-onset events and risks from climate change; (viii) higher education, scientific research, science and technology; (ix) energy; and (x) tourism and world heritage (natural and cultural). It supports Iraq in reducing GHG emissions and increasing climate resilience in order to achieve the Paris Agreement goal. The NDC reflects Iraq’s ambition to reduce emissions, taking into account its domestic circumstances and capacities and with conditional targets based on technical and funding support. It commits to implementing its nationally determined contributions from 2021 until 2030, leading to a 1-2% reduction of its GHG emissions. More specifically, it addresses both mitigation of greenhouse gases and adaptation towards climate change, with a focus on gender, the private sector, and shifting towards a green economy. It also includes monitoring, reporting and verification (MRV) to ensure transparent implementation, in addition to indicators that simplify the review, enhancement and update process.

¹¹⁶ <https://www.arabstates.undp.org/content/rbas/en/home/presscenter/pressreleases/2021/iraq-reaffirms-commitment-to-climate-action-under-the-paris-agre.html>

¹¹⁷ <https://www.iq.undp.org/content/iraq/en/home/all-projects/Support-to-Iraq-Nationally-Determined-Contribution.html>

¹¹⁸ <https://www.fao.org/faolex/results/details/en/c/LEX-FAOC205646/>

In 2020, the Government of Iraq, in partnership with UNEP, launched a process to develop a National Adaptation Plan (NAP) to build the country's resilience to climate change.

Agriculture¹¹⁹

The Strategic Plan of the Ministry of Agriculture (2015-2025). This instrument governs national agricultural policy. Its strategic objective is to “*develop the agricultural sector to reach the highest possible levels of self-sufficiency in agricultural products to achieve sustainable food security and environmental protection.*” The Plan establishes several country priorities within plant production (wheat, barley, vegetables, potatoes and dates), as well as animal production, especially ruminants (for milk and red meat), poultry (white meat and table eggs), and fisheries. Other priorities are transferring technology, such as using modern irrigation technologies and developing productivity by transferring agricultural research results to the field. The Plan emphasizes promoting a range of actions, including: (i) expanding the use of conservation agriculture; (ii) spreading the use of modern irrigation methods; (iii) using supplemental irrigation in rainy areas; (iv) developing, propagating and using high-yielding varieties suitable for environmental conditions; (v) increasing soil organic matter through organic and green fertilization; (vi) regulating crop irrigation (quantity and timing); and (vii) increasing water use efficiency.

Water¹²⁰

The National Strategy for Water Resources and Land Management for Iraq (SWLRI)¹²¹. Developed by the MoWR, this document establishes objectives for 2035, aiming at the sustainable use and integrated management of water resources. The SWLRI project included three main components: (i) the preparation of a National Strategy for Water and Land Resources Management for Iraq for the period 2015-2035, which contains the investment strategy; (ii) the preparation of a negotiation strategy on the water for Iraq to successfully achieve water sharing agreements with neighboring countries; and (iii) the design, creation, institutionalization, and training of a Project Management Unit (PMU) to support the implementation of the SWLRI program. This policy document also includes the updated priorities for the water infrastructures and sectors using the resource; it includes action plans for more efficient use of irrigated water.

Ministry of Water Resources Law No. 50 of 2008. This Law consists of 16 articles and is divided into 4 Chapters. It aims at establishing the Ministry of Water Resources and creating the legal and technical framework for institutionalization of water resources management in the country. Main tasks of the Ministry are to plan for the investment in water resources in Iraq; to regulate utilization of ground and surface water to achieve the perfect use of water resources; to develop water resources; and to determine water sources and uses. Art. 2 states that the Ministry, among other things, aims at “sponsoring Iraq rights in common international water and maintain communication and information exchange with riparian neighboring countries on river basins, in a manner to reach fair agreements to divide the quantity of water entering Iraq”. To achieve these objectives the Ministry is responsible to: organize the water distribution and manage the flood risks; conduct studies aimed at encouraging projects for irrigation, supply reclamation, dams, and groundwater; manage, operate, and maintain these projects; coordinate with the competent planning and consumer sectors in line with the sustainable development; introduce modern technologies and geographic information systems (GIS) for developing efficient working methods.

Law relative to Maintenance of Systems for Irrigation and Drainage (No. 12 of 1995). This Act qualifies irrigation networks; provides for the management and maintenance of irrigation and

¹¹⁹ Largely extracted from GCF SRVALI FPP Working Paper on the Rapid Agriculture Sector Assessment and Proposal of Component 2.

¹²⁰ Largely extracted from GCF SRVALI FPP Working Paper on the agricultural water sector.

¹²¹ <http://t-zero.it/en/portfolio/swlri-strategy-for-water-and-land-resources-in-iraq/>

drainage networks, including natural rivers and water basins; provides for the establishment of a public body called the General Body for the Operation of Irrigation Projects; and defines duties of farmers in relation with the management and exploitation of agricultural lands and the use of water.

Law No.11 of 2012 - Fourth Amendment of Law No. 12 of 1995. Main objective of this Amendment consisting of five articles is giving the control of the distribution of inland waters to beneficiaries' associations. These associations have to be established by users of common sources of water. Other tasks of the beneficiaries' associations are raising the efficiency of water use and reduce waste; achieve a fair distribution of water among the beneficiaries; contribute to the resolution of the conflicts between the beneficiaries; maintaining the facilities of irrigation and drainage.

Law No. 2 of 2001 on Conservation of Water Resources. The purpose of this Law is to establish rules on management, utilization and preservation of Iraq's water resources. Consisting of 18 articles divided into four chapters, the Law regulates the utilization of water for purposes other than domestic use. The four Chapters are: (i) Definitions and Applications; (ii) Provisions on the discharge of wastes into the public waters; (iii) Plans of public waters protection; and (iv) General Provisions.

Ministry of Water Resources Law No. 50 of 2008. This Law, consisting of 16 articles divided in 4 Chapters, aims at establishing the Ministry of Water Resources and creating the legal and technical framework for institutionalization of water resources management in the country. Main tasks of the Ministry are: to plan for the investment in water resources in Iraq; to regulate utilization of ground and surface water to achieve the perfect use of water resources; to develop water resources; and to determine water sources and uses.

Irrigation Law No.83 of 2017. Repeals Irrigation Law No. 6 of 1962. This Law consisting of 16 articles aims at preserving the work of water resources and preventing damage to them together with preventing overflow of water quotas and to up-to-date, the fines imposed on offenders. It establishes among others that the Ministry of Water Resources is committed to carry out the work of public water resources (restoration, maintenance and supervision) and establish, maintain or improve rivers, bridges, dams, buildings, reservoirs and banks.

WUA instructions. WUA instructions, translated literally from official Arabic title; "The instruction No.1 on implementing laws and regulation 2014 regarding water sharing among Water resource users." Based on a preceding Article 5 paragraph 3 c of the "Law No. 12 of 1995 on the maintenance of the irrigation and drainage network", it was enacted in April 2014 to define the establishment procedures as well as the rights and obligations of WUAs.

Water fee law. According to the bill, water fees are set at 5,000 IQD/dunum for each cropping season. In cases where cropping is done twice, winter and summer, in a year, the fees will be 10,000IQD/dunum. In each Directorate of Water Resources, Water Resources Bureau has stationed staff to collect water fees. Fine is imposed on default and measure for repeated/continued defaults is spelled out. Weak law enforceability remains a challenge.

Energy¹²²

The **Integrated National Energy Strategy (INES)**. Developed by the Iraq Prime Minister Advisory Commission in 2014, the Strategy has two strategic objectives related to its renewable energy regulatory framework: (i) support environmentally sustainable technologies; and (ii) attain greater energy security through a steady increase of electricity production. The INES assigns great importance to the development of renewable energy infrastructure. Solar energy is a key source in the short term

¹²² Largely extracted from GCF SRVALI FPP Working Paper on Low -Emissions and Renewable Energy Options for the agricultural sector in Iraq.

for supplying energy to remote off-grid locations. In the medium- to long-term, solar and wind power capacity will be developed for connection with the grid, and the potential for hydro-power development will be further examined. The strategy expects that by 2030 renewable capacity will exceed 2 GW, approximately 4-5 percent of total system capacity.

The **Electricity Master Plan 2010-2030**. Developed by the MoE, this Plan addresses the upgrading of Iraq's power plants and general improvement of the efficiency and capacity of the electricity sector. It covers all sectors of the grid: generation, transmission and distribution.

The **Solar Energy Plan 2017-2020**. Developed by the MoE, this Plan aims to diversify energy resources and reach 2,240 MW of photovoltaic systems (PV). Full implementation of the plan does is lagging, as only a few MW of PV have been installed in the country.

Investment Law no.13 (2006). Created the National Investment Commission (NIC) and the Provincial Investment Commission (PIC) to foster private investments. As a consequence, companies investing in renewable energy sources (RES) are exempted from operation and income taxes, duty exemption for imported equipment and land for RES projects can be leased at 2% of the annual lease return. The promotion of RES is also briefly mentioned in article 2 of the **Electricity law no. 53 (2017)**: "Supporting and encouraging the use of renewable energies in various fields and the settlement of their industries".

A **draft Law for Renewable Energy Sources (RES)** submitted to the Ministerial Energy Council in 2019 promotes the cooperation between public and private sector in the field. The law should furthermore permit the production of electricity for individuals and institutions for their own use or to sell it to the MoE via Power Purchase Agreements (PPA). Approval is however still pending and there is hence no law in place allowing a selling of excess electricity to the public utility grid.

Environment

National Environmental Strategy and Action Plan (NESAP) (2013-2017¹²³). The objective of this Strategy and Action Plan is to improve the quality of life and livelihood of the population through the protection of natural resources and support to sustainable practices. It provides an analysis of key and priority environmental issues in the country, and identifies ten Strategic Objectives which include, among others, protecting and improving water quality, controlling land degradation and combating desertification, and developing the institutional and legal framework of the environment sector. The implementation of this Strategy is presented in its Action Plan.

Land Degradation Neutrality (LDN) targets. Soil salinity, sand dune movement and sand and dust storms are the most common active phenomena causing land degradation and soil erosion in Iraq. Poor irrigation practices and drainage systems, many of which were damaged during the wars, have contributed to rising groundwater tables, and has led to soil salinity-induced land degradation, with central and southern Iraq being the most affected regions. These are some of the major issues addressed in Iraq's LDN targets – Iraq's UNCCD National Focal Point and LDN national working group established relevant targets and measures and identified financing and leverage opportunities for LDN implementation and achievement, including for dust storms and sand dune movement, and water resources management.

Labour

When employing workers, Iraqi labor laws must be adhered to. International Labor Organization (ILO) labor rights have been adopted by the Government of Iraq; Iraq has been a member of the ILO in 1932.

¹²³ Currently being updated.

[Labour Law No.37/2015](#), including Instruction No.12 of 2016 for Occupational Health and Safety (OHS), differentiates between jobs depending on the circumstances and duties that employees are conducting. The Law organizes the relationship between the employer and employees, with the aim of protecting their rights and realizing sustainable improvement based on social justice, equality and providing suitable work for everybody without discrimination. The Law prohibits all types of compulsory labor and child labor and determines minimum working age (15 years) and to prevent any discrimination or harassment, whether direct or indirect. The Law regulates the work of female employees by granting additional rights, and regulates the work of subcontractors regarding employees' rights.

First Decent Work Country Programme (2019-2023)

In December 2019, Iraq and the ILO launched the country's first Decent Work Country Programme (DWCP). The DWCP in Iraq focuses on three areas of priority: ensuring that private sector development supports the creation of new jobs; extending and strengthening social protection and addressing child labour; and improving social dialogue in order to promote rights at work.

4.2 IRAQ INSTITUTIONAL FRAMEWORK

The **Ministry of Environment (MoEnv)** is the national focal point for the United Nations Framework Convention on Climate Change (UNFCCC), and operates under the mandate of the Law Establishing the Ministry of Environment and on the Protection and Improvement of the Environment. It is the country's interface with the GCF as the National Designated Authority (NDA). The MoEnv is also responsible for aspects related to climate change adaptation and mitigation including on greenhouse gas mitigation and pollution control. It is also responsible for promoting renewable energy systems in policy dialogues and public awareness campaigns.

The **Ministry of Agriculture (MoA)** is responsible for implementing programs and strategies that aim to improve sectoral productivity, disseminate innovations, sustainable practices, and ensure adequate management of natural resources. It also disseminates climate change adaptation strategies. The main initiatives of the MoA are the national programme for the use of on-farm modern irrigation systems; national programme for the improvement of wheat production; national programme for the development of drought and salinity tolerant crops; program for the establishment of an agricultural meteorology network; programme for the genetic improvement of local animal breeds; and conservation agriculture projects. The MoA is responsible for assigning cropping patterns to farmers to produce "strategic crops" for distributing input rations at subsidized prices, and for marketing outputs at controlled prices. The MoA operates through Agricultural Directorates in each province. The Ministry is composed of nine technical departments and two state companies responsible for overseeing irrigation technology and seed certification. The Directorate of Agriculture (technical sector) is housed under the technical permanent secretary. The Directorate of Agriculture (for administrative, financial, legal sector, etc.) and central departments for internal auditing and monitoring, finance, clerical, and legal matters come under the administrative permanent secretary. The Planning and Follow-up Department, Agricultural Research Department, Agricultural Extension and Training Department, and Sanharib Company implement water saving irrigation methods at the field level.

The **Ministry of Electricity (MoE)** is in charge of sectoral policies, oversight, and planning of electricity supply in the country. It is divided into general directorates responsible for generation, transmission, and distribution based on regional/geographical directorates. A separate General Directorate deals with the implementation of projects and technical facilities. There are two divisions which are part of the Headquarter office within the planning and study department that are of crucial importance for the GCF initiative: (i) The department of Renewable Energy and Energy Efficiency, responsible for the

implementation of initiatives in support of the sector and the (ii) Regulatory Office that is tasked with developing the regulatory framework for the enhancement of the power sector including the elaboration of regulations related to solar energy generation and grid integration. There is currently no Electricity Regulatory Agency present, the Power Off-taker for large RES project is the Directorate for Transmission and the Directorate of Transmission Project.

4.3 REGULATORY FRAMEWORK FOR ENVIRONMENTAL IMPACT ASSESSMENT (EIA) IN IRAQ

Iraq has an existing institutional structure overseeing environmental and social safeguards, notably the MoEnv, which is responsible for approving Environmental and Social Impact Assessments (ESIAs).

Law No. 37 of 2008 establishing the Ministry of Environment. Consisting of 15 articles divided in 4 Chapters, this Law establishes the Iraqi MoEnv and outlines its mandate to protect and conserve the environment, and protect residents from environmental pollutants and environmental risks to human health. The Law also establishes the MoEnv's composition, duties and responsibilities, which is responsible for the definition, coordination and implementation of policy on waste management, radioactivity sources monitoring, establishment of natural reserves and circulation of environmental culture and public awareness. The MoEnv is also responsible for the development of environmental policies and programs, and the creation and enforcement of environmental standards.

Law No. 27 of 2009 on the Protection and Improvement of the Environment. The Law aims at protecting and improving the environment through elimination and treatment of existing damages or those likely to be caused. It also aims at preserving public health, natural resources, and biodiversity as well as natural and cultural heritage in coordination with the relevant authorities in a manner that ensures sustainable development through international and regional cooperation. Article 3 of this Law establishes the "Environment Protection and Improvement Council", which is associated with the MoEnv and includes 22 representative members from all ministries and commissions. Article 10 states that project proponents must conduct an environmental impact assessment prior to project commencement, and provides direction on what the EIA should include (e.g. assessment of impacts, mitigation measures). It describes an Environmental Impact Assessment (EIA) as: "a study and analysis of the environmental feasibility of proposed projects that may affect the creation or the exercise of their activities on human health and environmental safety of present and future with a view to protecting them."

Environmental Criteria for Carrying out Projects and Monitoring Appropriateness of Implementation Instructions no. 3 – 2011. These instructions were issued by the MoEnv to set criteria for classifying projects in Iraq into 3 main categories - A, B, and C - based on the level of adverse impacts and the magnitude of impacts/boundaries of influence.

4.4 RELEVANT INTERNATIONAL CONVENTIONS AND TREATIES

The Republic of Iraq is signatory of several Multilateral Environmental Agreements (MEAs), including:

1. United Nations Framework Convention on Climate Change
 - Paris Agreement (Ratified: 1 November 2021¹²⁴)
 - Kyoto Protocol (Ratified: 28 July 2009)

Under the United Nations Framework Convention on Climate Change (UNFCCC), Iraq submitted its [First National Communication](#) in 2016, it submitted its first [Nationally Determined Contribution \(NDC\)](#)

¹²⁴ <https://treaties.un.org/doc/Publication/CN/2021/CN.358.2021-Eng.pdf>

in October 2021, and it launched its [National Adaptation Plan \(NAP\)](#) process in 2020 in partnership with the United Nations Environment Programme (UNEP) with funding from the GCF.

2. United Nations Convention to Combat Desertification (Acceded: 28 May 2010)
Documents prepared in the context of the UNCCD include:
[Land Degradation Neutrality Target Setting National Report of](#) the Republic of Iraq in 2017.

3. UN Convention on Biological Diversity (Acceded: 26 October 2009)
[Iraq's National Biodiversity Strategy and Action Plan \(2015-2020\)](#)
Iraq submitted its [Fifth National Biodiversity and Action Plan 2015-2020](#) in 2015.

These MEAs impose requirements and restrictions of varying degrees upon the member countries to meet the objectives of these agreements. The implementation of Iraq's national policies, strategies and plans are contributions to the achievement of these global Conventions. Iraq is also committed to the Sustainable Development Goals (SDGs) principles by integrating the SDGs into its national strategic framework Iraq Vision 2030. The United Nations Development Programme (UNDP) and the Iraqi Ministry of Planning (MoP) is strengthening the integration of the SDGs in Iraq by nationalizing the SDG indicators, and is in the process of preparing its second Voluntary National Review. Achieving the SDGs will lead to optimize the utilization of the resources that are interlinked (water, energy, and food security).

5. FAO AND GCF SAFEGUARDS

In accordance with FAO and GCF ESS policy, SRVALI underwent an environmental and social assessment against FAO's environmental and social safeguards¹²⁵. FAO will not undertake activities in the non-eligible activities listed in Annex 1. There will be no significant or irreversible negative environmental impacts associated with the project – on the contrary, the project will build the adaptive capacity of communities and institutions in Iraq, address the needs of all vulnerable groups, including Indigenous Peoples, if present, and with a strong emphasis on women, and increase the resilience of water management systems as well as agricultural resources to climate change. The project will ensure that all target groups will benefit in a culturally appropriate manner and not suffer harm or adverse effects from the design and implementation of project activities. Project components were identified through a consultative process, and are closely aligned with the national policy objectives and international climate change commitments of the Government of Iraq, in particular Iraq's INC, first NDC, SWLRI and INES.

5.1 RISK CLASSIFICATION OF THE PROPOSAL

According to FAO's environmental and social risk classification, the project is moderate risk (Category B).

Moderate risk projects are defined as:

- a) Projects with environmental and/or social impacts potentially identified.
 - Project activities involve shifting from open distributary and watercourse earth canals to buried irrigation pipelines (upgraded irrigation infrastructure aims to improve beneficiaries' access to irrigation water during droughts, and their ability to use water efficiently); and the installation of photovoltaic (PV) systems (which will significantly increase energy security and will be installed on water canals, allowing saving of valuable agricultural land and reducing

¹²⁵ FAO's Environmental and Social Management Guidelines available at: <http://www.fao.org/3/a-i4413e.pdf>

evaporation of water and algae growth). Any potential impacts would be linked to infrastructure works, but these are localized and can be mitigated.

- b) Potential impacts are limited to the project footprint.
 - Potential identified impacts could happen during infrastructure works on upgrading existing irrigation canals and installing PV systems, with no downstream-related impacts envisaged.
- c) Potential impacts are neither irreversible nor cumulative.
 - Potential impacts are reversible and not cumulative, as they involve localized interventions, with wide-ranging adaptation benefits.
- d) Potential negative impacts can be resolved by means of best practice (e.g. managing construction pollution, materials used, and safety measures).
 - These will be addressed through mitigation measures (e.g. ensuring stakeholder engagement, following best practice, obtaining necessary technical clearances, where and as needed).

The ESMF identifies policy triggers for the project, screening criteria for activities, environmental and social impacts of the activities, and measures to mitigate identified risks. Mitigation actions will avoid, minimize and mitigate negative impacts during project implementation and operation. Mitigation actions will be in line with FAO and GCF ESS policy, and national legislation, and adhere to whichever is most stringent. The ESMF also sets out the modalities for stakeholder engagement, and the procedure and process for dealing with complaints, through the Grievance Redress Mechanism.

The ESFM will be disclosed on relevant portals, and shared with stakeholders during stakeholder engagement consultations, so they will be aware of potential consequences of project activities. Consultations with stakeholders during project implementation will take place yearly, at the time of the preparation of Annual Work Plan and Budgets (AWPB). The AWPB will be presented by the PMU and reviewed by all stakeholders, including at the national, target Governorate and community levels. During these stakeholder consultations, the Grievance Redress Mechanism will also be presented and explained.

In order to ensure a smooth and effective ESMF process, there will be one person in the PMU responsible for the environmental and social safeguards process (including GRM and stakeholder engagement).

Proposed project investments are designed to have positive social and environmental benefits; the project has however been classified as moderate risk (Category B) largely due to works associated with irrigation canal works. FAO ESS triggered are:

ESS 1 (natural resources management). Risks are related to infrastructure works on irrigation canals and installation of photovoltaic panels. Best practices for construction works will be implemented, and all left-over construction material will be disposed of at the appropriate site and in an appropriate manner. The execution of works by contractors will comply with established environmental, health, and safety (EHS) contractual requirements; ESMPs will be prepared for each sub-activity.

ESS 3 (plant genetic resources for food and agriculture). Salt and drought-tolerant crop varieties that will be demonstrated during FFS are varieties already commonly used in the country, developed and tested by the National Agricultural Research Center. These varieties are already registered and authorized by the national seed authority. No seeds will be procured and no new planting material (crop varieties) will be introduced into the country.

ESS 7 (decent work). Potential risks could be related to equitable benefits from project activities. To address this, project activities specifically target women (ref. Gender Action Plan; Climate Wise Women activities). Occupational health and safety risks will be dealt with by providing training and protective measures and gear as well as provisions for protecting workers against COVID-19. Where the project hires workers, employees' rights as per UN/FAO standards will be respected. The employment of project workers will be based on the principle of equal opportunity and fair treatment, and there will be no discrimination with respect to any aspects of the employment relationship.

5.2 FAO ENVIRONMENTAL AND SOCIAL SAFEGUARDS (ESS)

Table 13 (below) lists the FAO Safeguards that are applicable for SRVALI and gives a description of why ("justification" of applicability).

Table 14. FAO Applicable Safeguards.

FAO Safeguard	Applies	Justification
ESS1: Natural Resource Management	Yes	This Safeguard was triggered because of infrastructure works related to irrigation canals and solar energy panels. Water conveyance efficiency will be improved by shifting from <i>existing</i> open distributary and watercourse earth canals to buried irrigation pipelines. Selected canals will be covered with solar panels to provide farming communities with renewable energy. Infrastructure design will be undertaken in close collaboration with all concerned stakeholders (i.e. government agencies and water users), and will include feasibility studies and prioritizing irrigation water control and systems for the fast tracking of repair, rehabilitation and construction works; construction will be in line with best practice and agreed with national authorities.
ESS2: Biodiversity, Ecosystems and Natural Habitats	No	All project areas correspond to existing agricultural areas and the project will not foresee or cause expansion of irrigated lands. Therefore, no impact is foreseen on natural habitats, ecosystems and biodiversity.
ESS3: Plant Genetic Resources for Food and Agriculture	Yes	During training through FFS, demonstration sites will use salt and drought-tolerant crop varieties commonly used in the country, which were developed and tested by the Iraqi Agricultural Research Institute (IPARC). These varieties are already registered and authorized by the National Council for Seeds. No seeds will be procured and no new planting material (crop varieties) will be introduced into the country.
ESS4: Animal - Livestock and Aquatic - Genetic Resources for Food and Agriculture	No	The project will not introduce new crops or animals nor will modify existing livestock management patterns. The project will not foresee or cause expansion of irrigated lands. Therefore, livestock and aquatic genetic resources will not be impacted.
ESS5: Pest and Pesticide Management	No	The project will not lead to increased use of pesticides through intensification or expansion of production. Should, however, this occur, the project already works through FFS, and IPM practices would be promoted.
ESS6: Involuntary Resettlement and Displacement	No	The upgrade of identified infrastructures (i.e. irrigation canals) will not imply changes in their existing location or dimensions. Therefore, there will be no involuntary resettlement or displacement resulting from project activities.
ESS7: Decent Work	Yes	The project operates in target areas with high incidences of vulnerability - these persons are project beneficiaries. The project will

		generate employment for the local population - workers will be employed in line with national legislation and/or UN/FAO regulation, whichever is most stringent. Training will be provided on operations, and Operational Hazards and Safety Risks, including on COVID-19 related safety precautions.
ESS8: Gender Equality	No	The project will not overlook existing gender inequalities in access to productive resources, goods, services, markets, decent employment and decision-making. On the contrary, gender inclusion is a key project consideration of the project, and the “Climate Wise Women” initiative, as change agents for climate adaptation, will be established. With regards to the prevention of sexual exploitation and abuse (PSEA), through its Grievance Redress Mechanism the Project will ensure that all concerns and/or incidents will be reported to the PSEA focal point and the FAO Office of the Inspector General, as appropriate. The Project will include sexual exploitation and abuse awareness raising, and stakeholder-differentiated understanding, during stakeholder engagement (ref. Appendix 4) .
ESS9: Indigenous Peoples and Cultural Heritage	No	A precondition for the selection of distributary canals and their watercourses is that their right of way be free from any physical cultural resources, including graves. The project is designed to ensure benefits to <i>all</i> target groups and peoples that will be impacted by project activities. The presence of Indigenous Peoples in the target governorates are not reported (by FAO databases, national institutions, governorates and communities); however, should their presence emerge during the execution phase, the project will prepare an Indigenous Peoples Plan as per GCF IPs Policy, at the inception phase of the project.

5.3 GREEN CLIMATE FUND SAFEGUARDS

GCF has provisionally adopted the Performance Standards (PS) and directives of implementation of the International Financial Corporation, for the purposes of safeguarding GCF projects. There are eight IFC Performance Standards that include the main environmental and social questions that must be considered when starting a project, using the best international practices. This project has been screened against FAO environmental and social standards, ensuring that the project is consistent with the objectives of GCF Performance Standards. Table 14 lists, and aligns, them against the (nine) FAO Standards.

Table 15. Green Climate Fund Safeguards.

IFC - Performance Standards	FAO Standards
PS 1: Assessment and Management of environmental and social risks and impacts	ESS 1: Natural Resource Management ESS 8: Gender Equality
PS 2: Labor and Working conditions	ESS 7: Decent Work
PS 3: Resource efficiency and pollution prevention	ESS 5: Pests and pesticides management
PS 4: Community health, safety and security	ESS 7: Decent Work (partially)
PS 5: Land acquisition and involuntary resettlement	ESS 6: Involuntary Resettlement and Displacement

IFC - Performance Standards	FAO Standards
PS 6: Biodiversity conservation and sustainable management of living natural resources	ESS 2: Biodiversity, Ecosystems and Natural Habitats ESS 3: Plant genetic resources for food and agriculture ESS 4: Animal - Livestock and Aquatic - Genetic Resources for Food and Agriculture
PS 7: Indigenous Peoples	ESS 9: Indigenous Peoples and Cultural Heritage
PS 8: Cultural Heritage	

The most stringent policy and/or law will be followed in any instances of discrepancy between national legislation and GCF/FAO requirements. In practice, this means that the project will follow national policy and/or law to the extent that it is applicable/relevant, while ensuring that supplementary actions and/or measures are taken in the event that the application of the relevant national policy and/or law is not sufficient to adhere to GCF/FAO requirements. In so doing, the project will ensure that the most stringent standards are consistently adhered to, while still applying (and building directly on) the relevant national policies and/or laws.

6. STAKEHOLDER ENGAGEMENT

SRVALI was designed in close consultation with and involvement of relevant government agencies, technical line departments and local stakeholders in the project governorates. This has ensured that the components and activities proposed are in line with national policies and strategies with strong country ownership and relevance for local communities. More information on the SRVALI stakeholder engagement process is provided in a separate Annex (Annex 7), to the FFP.

Stakeholders were initially identified through discussions between the NDA (MoEnv) and FAO during the design of the preliminary project concept. These discussions led to the identification of the ministries, departments, and line agencies that would be involved. Through the consultation process, entities and other stakeholders were mapped for project implementation, including on management and technical leadership. Stakeholders were then identified for the implementation of project components. Based on consultations, Table 15 lists key project stakeholders and their roles, and responsibilities within the project.

Table 16. Key stakeholders and roles/responsibilities.

Agency	Role	Specific Responsibility
FAO-RNE and HQ	AE	Supervision & Oversight
FAO-Iraq	EE	Execution of project activities
Ministry of Health & Environment (Climate Centre)	NDA	Facilitation & Support
Ministry of Water Resources	Co-Financier	in-kind contribution and Policy Review.
Directorate of Water Resources		Coordination and support in the field
Ministry of Agriculture	Co-Financier	In-kind contribution and Policy Review

Directorate of Agriculture		Coordination and support in the field
Ministry of Energy	Co-Financier	Facilitation Support and Policy Review
Service Provider	Implementation	Implement irrigation and energy projects
Service Provider/NGO	Implementation	Implement the Climate Wise Women

6.2 STAKEHOLDER ENGAGEMENT PROCESS

6.2.1 Stakeholder engagement during project formulation

SRVALI was developed and prepared following a request to FAO, by the Government of Iraq. The process began in 2017, and through consultations with stakeholders, was refined to what is now the Full Funding Proposal (FFP).

Stakeholder engagement is viewed as crucial in order to develop a strong project and high level of country ownership. The SRVALI proposal was developed in consultation with stakeholders to ensure that the project design is appropriate and meets national priorities (irrigation efficiency, energy and climate change, with a strong gender focus) and local needs, and to identify activity priority areas and gaps, project target areas, main stakeholders, and implementation arrangements/responsibilities. Furthermore, consultations were held to verify the technical feasibility of the activities included in the project components, and to obtain feedback from stakeholders on all aspects of the project.

Other issues that were discussed included the climate rationale, the relevant climate change adaptation targets, the proposed project approach including the investment criteria, the sustainability and the expected paradigm shift. Stakeholders agreed on needs to be addressed, targets and methodology. These, and the timeframe and budget, will be verified at the time of the Validation Workshop (TBD).

Three official national workshops were held:

1. Green Climate Fund Workshop: Consultation Workshop for Development of a Project Concept Note for Iraq (December 21-22, 2017).
2. Strengthening Climate Resilience of Vulnerable Agriculture Livelihoods in Iraq's Rural Communities Workshop – Najaf Governorate, MoEnv and FAO (June 23-24, 2021).
3. Validation Workshop of the Project (November 18, 2021).

At the time the project was first conceived, a range of activities were put forward, and project areas were not concretely identified. During the course of project elaboration, key government agencies and other stakeholders dealing with the environment, water, energy and agriculture sectors in Iraq were consulted (in hybrid/virtual formats, due to COVID-19 precautions and travel restrictions) in national-level workshops and detailed bilateral meetings. These included consultations with the Ministry of Environment, the Ministry of Water Resources, the Ministry of Agriculture, the Ministry of Planning and the Ministry of Electricity. Local governance authorities (including from the Department of Water of Najaf and Muthanna) from the three project governorates of Karbala, Muthanna and Najaf were also consulted with the support of the Ministries. "Non-structured" bilateral meetings were also held with United Nations agencies (e.g. IFAD, IOM, UNEP, UN-Habitat, UNDP, UNFPA and UN-WOMEN, WFP), bilateral development agencies (JICA, USAID), MoA agricultural extension officers, NGOs and CSOs (e.g. NGO representatives working on gender aspects for the Climate Wise Women sub-component), local stakeholders (e.g., WUAs), and the private sector (e.g. DEBANNE Agri-Seed Company and MTS Solar Panel Company). Workshops were held to elaborate and validate project priorities, ensure their alignment with GCF priorities, define project activities and areas, and technical and project management/implementation issues. Gender-specific consultations were also held, and

the outcomes informed the preparation of the Climate Wise Women initiative and the Gender Action Plan. The FFP design reflects the feedback received from both national and bilateral consultations.

6.2.2 Stakeholder engagement during project implementation

Consultation at all levels during implementation is a good practice to assume in order to ensure that potential negative impacts and concerns are adequately addressed, by all potentially impacted stakeholders, during the construction and operation of the project. Stakeholders will be engaged in project implementation throughout the duration of the entire project. An extensive consultation with the involved populations is required when the sub-activities could include impacts that would affect the natural resources that sustain the agricultural production of the local population, the generation of income and the livelihoods of the people. Stakeholder consultations prior and during project implementation will also include awareness raising and stakeholder-differentiated understanding of sexual exploitation and abuse-related risks and mitigation measures. Consultations with stakeholders during project implementation will therefore take place yearly, at the time of the preparation of Annual Work Plan and Budget (AWPB) – i.e. at the beginning of each of the six project Fiscal Years (FY). The AWPB constitutes the main formal instrument to ensure ownership and participation of stakeholders and beneficiaries. It represents the results of the national engagement process and the main planning tool of the project. To this end the PMU, via its M&E unit and partners, will secure constant dialogue with target communities, their organizations and administrations and will ensure their participation in the AWPB formulation process. The AWPB will be presented by the PMU and reviewed by all stakeholders, at all levels. During these stakeholder engagement consultations, the ESFM – including the Grievance Redress Mechanism (GRM), but also the Gender Action Plan (GAP) and PSEA/SEAH information - will be shared with stakeholders, and explained. Details of stakeholder engagement are available in Annex 7 to the FFP.

6.2.3 Public consultation results

Final consultations with regards to the validation of the ESMF are still pending. The ESFM – including the Grievance Redress Mechanism (GRM) and the Gender Action Plan (GAP) and PSEA/SEAH information - will be shared with and explained to stakeholders, for their feedback and validation. This will take place as part of the stakeholder engagement process, throughout project implementation.

6.3 DISCLOSURE

According to GCF and FAO policies on access to information, all safeguard instruments under this project, including the ESMF and Gender Action Plan must be disclosed online in the English and local language (Arabic, in the case of Iraq) at least 30 days prior to GCF Board meeting and approval of the project. Access to the documents must be possible for any locals (i.e. it must be disclosed locally in an accessible place) in a form and language understandable to key stakeholders. Such disclosure of relevant project information helps stakeholders effectively participate. FAO is committed to disclosing information in a timely manner and in a way that is accessible and culturally appropriate, placing due attention to the specific needs of community groups which may be affected by project implementation (e.g. literacy, gender, differences in language or accessibility of technical information or connectivity).

For moderate risk projects like this one, FAO releases the applicable information as early as possible, and no later than 30 days prior to project approval. The 30-day period commences only when all relevant information requested from the project has been provided and is available to the public. FAO undertakes disclosure for all moderate risk projects, using a disclosure portal to publicly disclose all of the projects' documentation related to environmental and social safeguards (e.g. Environmental and Social Management Frameworks, Gender Action Plans, Indigenous Peoples Plans, and other relevant documents, as applicable). The website is: <http://www.fao.org/environmental-social-standards/disclosure-portal/en/>.

In order to ensure the widest dissemination and disclosure of project information, including any details related to applicable environmental and social safeguards, local and accessible disclosure tools including audiovisual materials (e.g. flyers, brochures, community radio broadcasts) will be utilized in addition to the standard portal disclosure tool. Furthermore, as relevant, particular attention will be paid to farmers, indigenous peoples, illiterate or technological illiterate people, people with hearing or visual disabilities, those with limited or no access to internet and other groups with special needs. The dissemination of information among these groups will be carried out with the project counterparts and relevant local actors.

In relation to each Category B sub-activity to be funded under the Project, FAO shall disclose fit-for-purpose environmental and social impact assessment, the Environmental and Social Management Plan (ESMP), and as appropriate any other associated information required to be disclosed in accordance with the GCF Information Disclosure Policy (Project Disclosure Package). FAO shall disclose the sub-activity safeguards information at least 30 calendar days prior to commencing execution of any sub-activities that have been categorized as Category B, in English and in the local language (if not English), on its website and in locations convenient to affected peoples, and provide the Project Disclosure Package to the GCF Secretariat for further distribution to the Board and Active Observers and for posting on the GCF website. Within 180 days of the GCF Board approval of the Project, FAO and the GCF Secretariat shall agree on a process to enable communication of any comments to FAO, including from the GCF Board members and Active Observers, on Category B sub-activities relating to the Project Disclosure Package, and to take account of such comments in the finalization of such documents.

The above ESMF and the accompanying Gender Action Plan will be disclosed in English and Arabic (national language of Iraq) on appropriate websites. Both documents will also be disclosed at the Governorate level in Arabic, prior to project implementation.

6.4 GRIEVANCE REDRESS MECHANISM

FAO is committed to ensuring that its programs are implemented in accordance with its environmental and social obligations. In order to better achieve these goals, and to ensure that beneficiaries of FAO programs have access to an effective and timely mechanism to address their concerns about non-compliance with these obligations, the Organization, in order to supplement measures for receiving, reviewing and acting as appropriate on these concerns at the program management level, has entrusted the Office of the Inspector-General with the mandate to independently review the complaints that cannot be resolved at that level.

FAO will facilitate the resolution of concerns of beneficiaries of FAO programs regarding alleged or potential violations of FAO's social and environmental commitments. For this purpose, concerns may be communicated in accordance with the eligibility criteria of the Guidelines for Compliance Reviews Following Complaints Related to the Organization's Environmental and Social Standards¹²⁶, which applies to all FAO programs and projects (Guidelines for Compliance Reviews Following Complaints Related to the Organization's Environmental and Social Standards).

Concerns must be addressed at the closest appropriate level, i.e. at the programme management/technical level, and if necessary, at the Regional Office level. If a concern or grievance cannot be resolved through consultations and measures at the project management level, a complaint requesting a Compliance Review may be filed with the Office of the Inspector-General (OIG) in accordance with the Guidelines. Program and project managers will have the responsibility to address

¹²⁶ Available online at: <http://www.fao.org/3/a-i4439e.pdf>

concerns brought to the attention of the focal point. With regards to the prevention of sexual exploitation and abuse (PSEA), through its Grievance Redress Mechanism the Project will ensure that all concerns and/or incidents will be reported to the PSEA focal point and the FAO Office of the Inspector General, as appropriate. Gender-responsive and SEAH-specific GRM procedures will be followed as referred to in Table 17 ESS Mitigation Plan; Appendix 4.1: SEAH Risk Mitigation Matrix; and Appendix 4.2: FAO-Iraq Community Feedback and Response Mechanism – Standard Operating Procedures (see also “Resolution”, below).

Project-level grievance mechanism

The project will establish a grievance mechanism at field level to file complaints. Contact information and information on the process to file a complaint will be disclosed in all meetings, workshops and other related events throughout the life of the project. In addition, it is expected that awareness raising material be distributed to include the necessary information regarding the contacts and the process for filing grievances. The Project will include sexual exploitation and abuse awareness raising, and stakeholder-differentiated understanding, during stakeholder engagement.

The Project Management Unit (PMU) will be responsible for addressing incoming grievances regarding environmental and social standards; as part of the safeguards performance monitoring, the Project Coordinator of the PMU will be responsible for documenting and reporting on any grievances received and how they were addressed.

Grievance Redress Mechanism Structure:

1. The complainant files a complaint through one of the channels of the grievance mechanism, which will be set up (email address, telephone number(s), contact person or physical address) before project implementation.
2. This will be sent to the PMU, where the Safeguards Specialist, who also acts as the GRM Focal Person, will assess whether or not the complaint is eligible. *The confidentiality of the complaint must be ensured throughout the process.*
3. Eligible complaints will be addressed by the PMU Safeguards Specialist together with the Project Coordinator of the PMU. The Project Coordinator will be responsible for recording the grievance and how it has been addressed if a resolution was agreed upon.
4. If the situation is exceptionally complex, or the complainer does not accept the resolution, the complaint must be escalated to a higher level (FAO Iraq Representation), until a solution or acceptance is reached.
5. If the situation is still not resolved, the grievance will be escalated to the FAO Regional Office for Near East and North Africa.
6. If the situation is still not resolved, the grievance will be escalated to the FAO Office of the Inspector-General.
7. For every complaint received, written proof of receipt will be sent within seven (7) working days; afterwards, a resolution proposal will be made within ten (10) working days.
8. In compliance with the resolution, the person in charge of dealing with the complaint may interact with the complainant, or may call for interviews and meetings, to better understand the situation.

9. All complaints received, their response and resolutions, must be duly registered.

Internal process

1. Project Management Unit. The complaint can directly contact the PMU either in writing, or orally. At this level, received complaints will be registered, investigated and solved by the PMU.

2. FAO Representative. The assistance of the FAO Representative is requested if a resolution was not reached and agreed upon in level 1.

3. FAO Regional Office for Near East and North Africa. If necessary, the FAO Representative will request the advice of the Regional Office to resolve a grievance, or will transfer the resolution of the grievance entirely to the regional office, if the problem is highly complex.

4. Only on very specific situations or complex problems, the FAO Regional Representative will request the assistance on the FAO Inspector General who pursues its own procedures to resolve the problem.

Resolution

Upon acceptance a solution by the complainer, a document with the agreement should be signed, clearly indicating the terms of the resolution.

Level of Redress Mechanism	Details
PMU	Must respond within 7 working days. Contact details to be established before project implementation.
FAO Representation	In consultation with PMU, must respond within 5 working days. Mr Salah El Hajj Hassan UN Compound Green Zone, Baghdad, Iraq FAO-IQ@fao.org Tel: +88261 63220110 FAO Iraq, in line with FAO procedures, also developed a FAO IRAQ Community Feedback and Response Mechanism Standard Operating Procedures, which include SEHA complaints.
Regional FAO Office for Near East and North Africa	Must respond within 5 working days in consultation with FAO's Representation. Mr Abdulhakim Rajab Elwaer FAO-RNE@fao.org Tel: +882 1633363422
Office of the Inspector General (OIG)	To report possible fraud and bad behavior by fax, confidential: (+39) 06 570 55550 By e-mail: Investigations-hotline@fao.org By confidential hotline: (+ 39) 06 570 52333 SEHA complaints can be lodged through FAO's Office of the Inspector General by email, phone or online using Ethics Point

Lastly, the Project is responsible for communicating to stakeholders about the GCF IRM and its grievance channels. Aggrieved parties can directly address their complaints or claims to:

Independent Redress Mechanism - Green Climate Fund

By email: irm@gcfund.org

Office telephone: +82 32-458-6186; Fax: +82 32-458-6096; Cell phone: +82 10-4296-1337.

Complains can send direct to GCF IRM to this web

address: <https://irm.greenclimate.fund/case-register/file-complaint>

7. MITIGATION MEASURES AND APPROACH TO ENHANCE POSITIVE IMPACTS

7.1 EXPECTED PROJECT IMPACTS

Positive impacts of the project include improving water distribution systems, stabilizing and increasing water availability at the farm level; increasing crop water productivity; transforming the existing irrigation network into more energy efficient systems; strengthening of water management institutions and the water distribution regime; and reducing the adaptation deficit of farming communities via specific and tailored training and capacity development. With the instalment of PV panels, the renewable energy generated is intended to satisfy the needs of the agriculture sector, being a reliable source of energy for pumping of irrigation water in remote areas, where electricity grid and maintenance service are not guaranteed and diesel is being used at the moment. This will ensure clean energy availability and enable farmers to get access to advanced irrigation technologies that will increase productivity without increasing water consumption to provide a more efficient and sustainable system and reduce costs. GHG emissions will be avoided due to the (a) installation and use of solar panels on irrigation canals (b) introduction of climate resilient practices such as minimum soil disturbance; (c) crop rotations that include diverse species; (d) improved rice production practices, etc. Converting earthen open irrigation canals to closed systems will improve beneficiaries' access to irrigation water during droughts, while also improving their ability to use water efficiently. Upgrades to the existing irrigation schemes, including flow-control, flow-measurement, and the installation of individual prepaid water meters are expected to bring positive outcome to farmers as it will allow them to have a more equitable access to surface water, also reducing the need for pumping groundwater. Covering irrigation canals with PV panels is also expected to save water due to the reduction of water evaporation. Overall, the project will also contribute to reducing the overall risk of disputes and conflict (Annex 5).

Potential negative impacts are mitigatable, and are mainly related to construction works for upgrading existing irrigation infrastructure and installation of solar panels. These impacts can be of physical nature (involving construction practices); other potential impacts during construction works are related to Operational Health and Safety Risks (OHSR), and human health (e.g. COVID-19 considerations). Potential social risks are related to the involvement of women in decision-making; power given to the president of Water User Associations, for example, can lead to issues of elite capture and marginalization of women. Pesticide use is not envisaged, and Indigenous Peoples are not present in the project area; both these are, however, accounted for in the ESS mitigation plan of this ESMF. **FAO Safeguards that are applicable for SRVALI** are presented in Table 17, below.

7.2 MITIGATION OF ENVIRONMENTAL AND SOCIAL IMPACTS

SRVALI is designed to have positive environmental and social outcomes. Major project interventions (e.g. the introduction of climate adaptive infrastructure, technologies and farming practices to stabilize and possibly increase water availability, water use efficiency and securing agriculture yields at the farm level) **will contribute to** enhancing the climate resilience of vulnerable agriculture households in Iraq. Project priority criteria were developed and agreed upon with stakeholders for

each project component. Women's inclusion is a significant aspect of the project, as can be seen in project activities (e.g. Climate Wise Women initiative). The Gender Action Plan is a tool prepared to ensure gender objectives and targets are met, and include SEAH mitigation measures.

Some project activities could, however, create localized and unintended impacts. Table 17 (below) identifies the main activities and potential issues that may emerge depending on the project activities – and then identifies actions that need to be ensured to happen, or mitigation measures to take - in order to *not* have negative consequences. All infrastructure works will undergo an ESS assessment prior to activity commencement, and ESMPs will be prepared. ESMPs will take into account the mitigation actions described in the table below.

Table 17. ESS mitigation plan: potential environmental and social impacts, and actions.

Activity	Potential risk	Actions (ensure avoidance of/mitigation of) to address potential impacts
Conversion of open distributary and watercourse earth canals to buried irrigation pipelines.	Inappropriate site selection.	<ul style="list-style-type: none"> - The selection of the canals for conversion from open to closed systems are closely coordinated with the Directorates of Water Resources in each of the Governorates and the other stakeholders identified such as communities and their organizations (Annex 5). - A precondition for the selection of, and layout of the selected distributary canals and their watercourses is that they will not be in the vicinity of/have any impact on physical cultural resources, and that their right of way is free from any physical cultural resources including graves. They will also be free of resettlement, relocation and land acquisition issues. - Livestock watering points will be located and taken into consideration during the detailed design. - Irrigation infrastructure works will commence only after WUAs are established and they submit a request for the development of such infrastructure. - The final locations will be determined during the construction phase together with the local population concerned.
	Inappropriate design	<ul style="list-style-type: none"> - Technical design will require attention to flow-control and flow-measurement at key outlet points, to enable performance-based legal agreements between the WUA and the higher-level, bulk-water operator (DoWR). - Hydraulic structures need to enable practical and enforceable distribution modalities within the boundary of the WUA area of operation.
	Deployment of inappropriate or ineffective construction methods and materials.	<ul style="list-style-type: none"> - The repair, rehabilitation and construction of selected irrigation infrastructure will be undertaken through MoWR approved contractors. - National legislation and standards concerning the rehabilitation of existing irrigation schemes will be respected, and Iraqi standards for irrigation engineering works will be followed. - Materials used will be according to good practice in Iraq: for pipes carrying large flows, the Directorate of Water Resources states that the material often used in Iraq is ductile iron. Installation is easy and safe for workers who can cut and tap ductile iron pipe on site. For lower diameters (630 mm and below), the material most often used in Iraq are PVC pipes. - All waste is to be collected, recycled if possible, and removed from the site for disposal at an appropriate disposal site.
	Disturbance during cropping period.	<ul style="list-style-type: none"> - The project will ensure that no disturbance to the cropping season occurs during the implementation of system upgrades. Should, however, any unavoidable disruption occurs and therefore income lost, farmers will be given opportunity and priority to be hired during construction works as unskilled labor.

Activity	Potential risk	Actions (ensure avoidance of/mitigation of) to address potential impacts
	Unstructured operation and maintenance (O&M) hand-over.	<ul style="list-style-type: none"> - Responsibilities for O&M of rehabilitated systems are established: <ul style="list-style-type: none"> - The DoWR in each Governorate will be responsible for the operation and maintenance of all investments after commissioning of the rehabilitated systems. - Water User Associations will be involved through the whole process in the selected Governorates for the operation and management of the improved systems. After establishment of WUAs, the responsibilities for O&M of the irrigation and drainage infrastructure will be transferred gradually to the WUAs. - Arrangements, such as a scheme management code and training, will be put in place between the responsible Government irrigation structure (DoWR) and the WUAs. - As part of the detailed infrastructure design, elements necessary to guarantee a good O&M of the targeted irrigation schemes will be included. An Operation and Maintenance Manual will be prepared, which will include the instructions of the equipment suppliers. - Training will be provided to DoWR and WUAs. - Training of technical staff and through vocational schools will provide practical knowledge and deeper understanding of issues and topics related to design, installation and maintenance of irrigation, drainage and energy technologies.
	Temporary pollution during construction.	<ul style="list-style-type: none"> - Soil removed through any excavation should be used as back filling or immediately removed from the project site. - Any excavated soil remaining temporarily on site should be placed in a proper location and covered. - Construction should be avoided during periods of anticipated rainfall or sand/dusts storms to prevent any soil erosion. <ul style="list-style-type: none"> o All concrete waste is to be collected, recycled if possible, and removed from the site for disposal at an appropriate disposal site.
	Operational Health and Safety Risks (OHSR).	<ul style="list-style-type: none"> - Compliance with general rules and regulations on OHSR. - Ensure workers are equipped with protective gear (e.g. helmets, boots, gloves, masks, and earplugs). - Ensure the availability of first aid kit at work sites and necessary information on rescue during emergency. - Ensure workers are trained on OHSR risk prevention and management on site. - Make barrier around any excavation and install warning signs to prevent passers-by and animals from falling in. - (i) WHO guidance on prevention of the spread of the COVID-19 virus; (ii) Government of Iraq COVID-19 guidelines; and (iii) FAO guidance on undertaking fieldwork under the COVID-19 pandemic will be followed.
	Unfair employment.	<ul style="list-style-type: none"> - Prohibit admission of children employees or underage workers to construction site by applying age verification before the employment of workers. Employment will be in line with national legislation and/or UN/FAO regulation, whichever is most stringent. - Utilizing local labor inputs as much as practicable, will be encouraged.
Installation of photovoltaic (PV) systems	Site selection	<ul style="list-style-type: none"> - The selection of the canals for conversion from open to closed systems are closely coordinated with the Directorates of Water Resources in each of the Governorates.

Activity	Potential risk	Actions (ensure avoidance of/mitigation of) to address potential impacts
	Inappropriate design	- Solar systems to be designed in accordance with the demand/capacity of the water pumps and the electricity will be directly used to pump water from rivers to water canals (no batteries will be employed).
	Operation and maintenance	- The DoWR in each Governorate will be responsible for the operation and maintenance of all investments after handing over. - Operation and maintenance by DoWR staff with support from the construction firm (establishing guidelines to monitor the performance, including effects of the solar panels on evaporation, algae growth etc. and training of DoWR staff on operation and maintenance). - O&M manual prepared.
Prepaid water meters	Inappropriate design considerations	- Be mounted on a concrete anchor with erosion protection. - Must have a lockable cover, with sufficient space for maintenance. - Be able to measure volumes and be able to shut off the water at prepaid amounts. - Must be able to transmit the use to a central data recording unit, usually by SMS on mobile phone. - Must function either by mobile money or by credit card type transaction.
Climate resilient agricultural production practices.	Seeds that are used do not conform to FAO ESS 3 (plant genetic resources for food and agriculture).	- Seeds that will be used have already been developed and tested by the Iraqi Agricultural Research Institute (IPARC). These varieties are already registered and authorized by the National Council for Seeds. No seeds will be procured. - An increased use of pesticides resulting from project activities is not foreseen. Should this however occur, the project works with farmers through FFS, where IPM or other ecological pest management approaches practices would be promoted.
Establishing WUAs	Potential exclusion of some farmers.	- The power given to the president of WUAs can lead to issues of elite capture and marginalization of women. Female head households will be consulted and arrangements will be made to have their participation in the WUAs more effective. - Women are targeted and empowered in the project through the Climate Wise Women initiative.
	Reinforcement/ establishment of WUAs does not consider essential issues.	- Essential issues to be considered should include: - Irrigation aspects of the land tenure arrangements and usufruct rights of women farmers. - WUA rights and duties. - WUA legal/financial oversight. - Infrastructure rehabilitation and transfer agreements if any. - Rights and duties of the parties in charge of irrigation scheme management. - Water fee recovery and other sources of funding for WUAs. - A dispute resolution mechanism if any. - WUA membership criteria (inclusion of women based on usufruct among others). - Place of female leadership in WUAs.
Applicable for activities throughout the project ¹²⁷	- Gender violence due to (perceived) gender empowerment.	- Issues related to gender equity are addressed in project design/activities and the Gender Assessment and Gender Action

¹²⁷ See also Appendix 4. SEAH Risk Screening Checklist

Activity	Potential risk	Actions (ensure avoidance of/mitigation of) to address potential impacts
	<ul style="list-style-type: none"> - Lack of strong legal system to enforce laws - Low levels of prosecution of SEAH incidents 	<p>Plan. The GRM is established as the platform whereby grievances related to the project ESMF can be addressed.</p> <ul style="list-style-type: none"> - Ensure presence in the PMU of a Gender and Social Specialist with extensive experience of local context - Ensure constant coordination between the project Gender and Social Specialist, the National Gender Coordinator, and the Regional Gender Coordinator in FAO. - Work with relevant gender/social welfare Government ministries and departments, other anti-gender-based violence organizations or networks. - Strong enforcement of the AEs SEAH (and/or its equivalent) policy. - Enforcement of SEAH related laws as it pertains to the project/program. - Liaise institutional stakeholders with providers of SEAH training (e.g. UNFPA, UNWOMEN, UNICEF, OCHA among others) to project stakeholders and communities. - FAO PSEA policy follows a survivor-centered approach, and this is incorporated in the FAO Iraq PSEA Action Plan. -
	Sexual exploitation, harassment and abuse	<ul style="list-style-type: none"> - Stakeholder consultations prior and during project implementation will include awareness raising and stakeholder-differentiated understanding of SEAH-related risks and mitigation measures. - As per FAO policies and Iraq PSEA FP, specific measures will be taken prior to project implementation and recruitment-related procedures (clear-check, mandatory trainings for different staff, etc.). - Gender Mainstreaming Training for beneficiaries, project staff, and other relevant stakeholders, has a dedicated section related to GBV, its types, and mitigation measures. This training will be delivered by the gender expert. In addition, dedicated PSEA Training and Reporting will be delivered to all project staff members. - The Grievance Redress Mechanism provides an accessible and inclusive survivor-centred and gender-responsive grievance redress mechanisms with specific procedures for SEAH including confidential reporting with safe and ethical documenting of such cases, that indicate when and where to report incidents, and what follow-up actions will be undertaken. - The Project will ensure that all concerns and/or incidents will be reported to the PSEA focal point and the FAO Office of the Inspector General, as appropriate. The Project PMU will also have a Gender and Social Specialist with PSEA expertise. - FAO staff will be equipped with service-referral mapping inclusive of different channels to ensure autonomy and confidentiality (FAO channels, and PSEA network channels) enabling them to respond to cases and refer cases to specialized UN centers without risking triggering stigma. Such training is included as an essential part under the Gender Mainstreaming Training for FAO Iraq.
	<ul style="list-style-type: none"> - Limited SEAH protection services in project/program area - High rates of femicide or sexual violence (e.g., used as a tactic of war) in project/program areas 	<ul style="list-style-type: none"> - Ensure regular visits to communities and local institutions of the Gender and Social Specialist to work with local government or authorities and to sensitize community members on SEAH safeguarding. - Identify champions where applicable to act as allies on SEAH safeguarding. - Provide SEAH training to project stakeholders and communities.

Activity	Potential risk	Actions (ensure avoidance of/mitigation of) to address potential impacts
		<ul style="list-style-type: none"> - PSEA awareness raising materials and sessions will be delivered directly to the community the project is operating in. - Through the work of the Gender and Social Specialist of the project, support local officials in campaigns on prevention of SEAH. - FAO staff will be equipped with service-referral mapping inclusive of different channels to ensure autonomy and confidentiality (FAO channels, and PSEA network channels) enabling them to respond to cases and refer cases to specialized UN centers without risking triggering stigma. Such training is included as an essential part under the Gender Mainstreaming Training for FAO Iraq.
	Women fear that participation or employment in the project/program may exacerbate ongoing forms of SEAH.	<ul style="list-style-type: none"> - Beneficiaries will be trained about reporting mechanisms by facilitators from the same gender, and about the different reporting channels available within FAO and within the country. - Leverage existing relationships with government stakeholders; identify champions / supporters / changemakers within the government (specifically on SEAH). - Conduct SEAH awareness-raising and sensitization campaigns within the community. - Inform the community on SEAH risks, explain how to report them and the services available including SEAH GRM established by the project.

8. PRINCIPLES AND PROCEDURES TO MITIGATE IMPACTS FOR IMPLEMENTATION

This chapter describes the process for ensuring that environmental and social concerns are addressed through the institutional arrangements and procedures used by the project for managing the identification, preparation, approval, and implementation of sub-project activities.

This ESMF identifies the ESS policy triggers for the project, the potential environmental and social impacts of project activities, and measures to mitigate the identified risks. In the early stages of the project, once specific target activity areas have been identified, and activities fully defined, an environmental and social screening exercise will be carried out at the sub-project level (refer to Annex 3 for FAO's Environmental and Social Safeguards (ESS) checklist). This tool will help identify those sub-projects that may require mitigation measures.

In order to ensure that the environmental and social issues are addressed properly in accordance and in compliance with the FAO and GCF Policies, all project activities shall undergo screening, assessment, review, and clearance process before execution of the project activities. *In line with Iraq's ESIA procedures, this ESMF constitutes the initial environmental impact assessment; the MoEnv is both the project NDA and the Iraqi ESIA approving authority. Furthermore, SRVALI project sub-activities will undertake, as applicable, further environmental and social impact assessments, where FAO and/or national environmental impact assessment standards/regulation will be followed, whichever is most stringent.*

Table 18. SRVALI's Compliance with Iraqi ESIA Procedures and Steps.

Stage Activity	Iraqi ESIA Procedures and Steps
Initial Screening	<ul style="list-style-type: none"> • The ESS Specialist of the SRVALI PMU completes FAO's ESS Screening Checklist (provided in Annex 3) for the intended sub-project activity and submits it to FAO's Environmental and Social Management Unit (ESMU), for screening and endorsement.

	<ul style="list-style-type: none"> • The ESS Checklist determines the sub-project activity classification: <ul style="list-style-type: none"> ○ Category I (A) project; for which a full EIA/EMP report is required. ○ Category II (B) project, for which an initial EIA/EMP is required. ○ Category III (C) for which no environment analysis is required. <p>(Ref. Section 8.2, below)</p>
Environmental and Social Plans	<ul style="list-style-type: none"> • The ESS Specialist of the SRVALI PMU prepares the Terms of Reference for the ESMP, based on Sections 8.2 and 8.3, below. • The ESS Specialist of the SRVALI PMU, together with technical specialists, prepares and Environmental and Social Management Plan (ESMP). • FAO's ESMU and Iraq's MoEnv review and approve the ESMP. • The ESMPs are publicly disclosed, and presented and discussed during stakeholder consultations. <p>(Ref. Sections 8.2 and 8.3, below)</p>

8.1 DEFINING SUB-PROJECT ACTIVITIES

By design, the project is expected to have far greater environmental benefits than adverse environmental impacts. The potential adverse environmental impacts from the project are likely to be small and limited. However, it is recognized that such impacts can accrue into larger impacts if they are not identified early during the planning cycle and their mitigation measures integrated into the project planning and implementation.

Considering the activities to be implemented in each implementing site will be very similar in nature and scale across the implementation area, it is proposed that screening for potential risks is undertaken at sub-project activity level. Sub-project activities constitute a valid tool to identify expected impacts and mitigation and monitoring measures.

In this context, sub-project activities will be identified during the inception phase. For each sub-project activity, implementing sites will be identified along with activities, including capacity building/training and stakeholder engagement information specific to each site.

In order to ensure a smooth and effective ESMF process, there will be one person in the PMU responsible for the environmental and social safeguards (ESS) process (including GRM and stakeholder engagement).

8.2 ENVIRONMENTAL AND SOCIAL RISK SCREENING OF SUB-PROJECT ACTIVITIES

FAO's Environmental and Social Screening (ESS) checklist (Annex 3) will determine if an Environmental and Social Management Plan (ESMP) is needed for each sub-project activity. The nature, magnitude, reversibility, and location of impacts are main elements in the screening of sub-projects; expert judgment is a main factor in deciding whether an ESMP is required for a sub-project or not, and national EIA legislation must also be consulted.

For a sub-project activity that requires an ESMP, the proposal must include a set of mitigation measures with monitoring and institutional arrangements to be taken during the implementation phase to correctly manage any potential adverse environmental and social impacts that may have been identified.

FAO will undertake environmental and social screening following FAO's ESS Checklist. Once the implementation sites and beneficiaries are determined, a screening checklist will be completed per

sub-project activity and signed off by the ESS specialist at the Project Management Unit (PMU). The results of the screening checklists will be aggregated by the ESS specialist. This document will be sent to the ESM Unit in FAO for endorsement. FAO will exclude high risk sub-projects.

Screening of sub-project activities involves:

- a) checking the activity is permissible (as per the legal and regulatory requirements of the project); and
- b) determining the level of environmental assessment required based on the level of expected impacts.

The ESS screening checklist will result in the following screening outcomes:

- a) determine the category for further assessment; and
- b) determine which environmental assessment instrument to be applied.

Pre-implementation safeguards documents (one per sub-activity) will be under the responsibility of the project Safeguards Specialist prior to the implementation of activities and sent to the ESM Unit for endorsement.

The documents will outline the following information relative to each sub-project activity:

- a) Description of the activities to be carried out in all sites
- b) Description of each implementing site:
 - i. Geography and specificities in terms of activities
 - ii. Beneficiaries and stakeholders
 - iii. Map of the site
- c) Description of the stakeholder engagement process that was carried out in the inception phase and the stakeholder engagement plan to be carried during implementation.
- d) Break down of information by site about the grievance mechanism and disclosure.
- e) Aggregated results of the environmental and social screening checklists per sub-activity signed off by the Safeguards Specialist in the Project Implementation Unit.
- f) Where applicable, Environmental and Social Management Plans identifying mitigation measures, indicators, responsibilities and timeframe. The ESMP will be added to the monitoring plan to ensure safeguards performance is regularly reported upon along with stakeholder engagement monitoring per site.

8.3 ENVIRONMENTAL AND SOCIAL RISK MANAGEMENT

For a sub-project activity that requires an ESMP, the sub-project activity proposal must contain an ESMP consisting of a set of mitigation measures with monitoring and institutional arrangements to be taken during its implementation. Funds have been budgeted for the ESS Specialist, who is responsible for the overall preparation of this (see Annex 2).

The ESMP should include:

Mitigation Measures: Based on the environmental and social impacts identified from the checklist, the ESMP should describe with technical details each mitigation measure, together with designs, equipment descriptions and operating procedures as appropriate.

Monitoring: Environmental and social monitoring during the implementation of the sub-projects should be described, in order to measure the success of the mitigation measures. Specifically, the monitoring section of the ESMP provides:

- A specific description and technical details of monitoring measures that include the parameters to be measured, the methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions.
- Monitoring and reporting procedures to ensure early detection of conditions that necessitate particular mitigation measures and to furnish information on the progress and results of mitigation, e.g. by annual audits and surveys to monitor overall effectiveness of this ESMF.

Institutional Arrangements: The ESMP should also provide a specific description of institutional arrangements, i.e. who is responsible for carrying out the mitigating and monitoring measures (for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting and staff training). Additionally, the ESMP should include an estimate of the costs of the measures and activities recommended so that the necessary funds can be budgeted and included in the proposal. The mitigation and monitoring measures recommended in the ESMP should be developed in consultation with all affected groups to incorporate their concerns and views in the design of the ESMP.

Once the pre-implementation documents with ESMPs are endorsed by the ESM Unit in FAO and Iraq's MoEnv, the Environmental and Social Safeguards Specialist from the PMU will ensure ESMPs are included and reported upon, along with stakeholder engagement in the context of the monitoring plan.

In this context, field staff will be responsible for monitoring the progress as relevant in the monitoring plan, as well as to identify any potential risks that may emerge through the implementation phase. This information will be compiled in progress reports and templates will include a section on Environmental and Social Risk Management, where the above information will be reported upon.

Information from progress reports will be received by the ESS specialist in the PMU, who will compile the information received in the progress reports, as well as that related to grievances to feed in a semi-annual report on Environmental and Social Safeguards Performance to be endorsed by the ESM Unit in FAO. This report will also include aspects of the Grievance Redress Mechanism to ensure its efficacy, and will be used in the preparation of the M&E Unit's Annual Performance Reports (APR): based on the previous years' experience, at AWPB meetings, the GRM will be evaluated and refined, if and as needed.

9. IMPLEMENTATION ARRANGEMENTS

Within the SRVALI governance structure described in Section 2.4, above, SRVALI will have a project management structure (Project Management Unit, or PMU), within which the Environmental and Social Safeguards Specialist will work.

9.1 PROJECT MANAGEMENT AND IMPLEMENTATION

FAO will serve as the Accredited Entity (AE) for the Project. FAO will be responsible for overall management of the Project, including: i) all project evaluation aspects; ii) administrative, financial and technical supervision throughout implementation of the Project; iii) supervision of effective management of funds to achieve the results and objectives; iv) quality control of Project monitoring and reporting to the GCF; and v) project closure and evaluation. As Accredited Entity (AE) of the Project, FAO's supervising role will be attributed to the FAO Regional Office for the Near East and North Africa (RNE) in Cairo with support from FAO's Climate, Biodiversity, Land and Water Department and other technical divisions as required (located at FAO Headquarters in Rome, Italy). To perform the AE functions, FAO will set up a dedicated FAO-GCF Project Task Force (PTF) including relevant staff from the FAO Country Office in Iraq, RNE and HQ. The project supervision function will remain independent of the Executing Entity (EE) functions performed by FAO Iraq. The Project Task Force (PTF) will be established by FAO as a management and consultative body; members of the PTF will perform the necessary supervision and oversight functions, including supervision and backstopping missions during the entire implementation period, as required. The PTF will be accountable for the quality of project documentation and implementation throughout the cycle and will actively work to manage the agreed results of the project and ensure appropriate use of resources.

FAO-Iraq will be the Executing Entity of the Project, and will establish a dedicated Project Management Unit (PMU) to be in charge of the execution of the project as a whole. The PMU will be established in Najaf (one of the project Governorates). The PMU will be under the direct responsibility of FAO-Iraq and will be led by a Project Coordinator/Irrigation Specialist. The PMU will be supported by technical experts assigned to each technical intervention for support and oversight. The PMU will include international and national specialists directly recruited by FAO-Iraq on a full- or part-time basis. These include an Energy Specialist, Agronomy and Climate Smart Agriculture Specialist, Gender and Social Inclusion Specialist, Environmental and Social Safeguards Specialist, Monitoring and Evaluation Specialist, Procurement Specialist, Finance Management Specialists and Administrative Assistants. The PMU will coordinate with contractors recruited to design and implement the irrigation and solar energy investments. The PMU, in association with the MoWR, will coordinate activities with respect to the investments in the irrigation systems with the Department of Water Resources at the Governorate level. The PMU will be directly responsible for the implementation of the training activities through the Farmer Field Schools (FFS). The PMU will also manage the work of the service provider recruited to implement the Climate Wise Women sub-component. Detailed Terms of Reference of the PMU will be prepared by FAO in consultation with key stakeholders. The Social Inclusion and Gender Specialist working together with the M&E unit will also have the mandate to ensure that the Gender Action Plan including the promotion and execution of orientation of the PMU staff in gender mainstreaming and the prevention of sexual harassment is undertaken.

A review of the responsibilities assigned to different partners and service providers for each of the components and sub-components is given in Table 18, below. The ESS Specialist will work with these partners to ensure the implementation of this ESMF. As identified during the course of project implementation, this includes ESMP preparation and training on aspects of ESMP execution (e.g. stakeholder engagement, GRM, monitoring).

Table 19. Responsibilities for project execution and implementation.

Output/Component	Agency	Specific Responsibility
Output 1.1.1: 68 kms of canals shifted from open to closed systems benefiting 8,457 people.	FAO	Procurement of Service Provider
	MoWR/DOWR	Coordination and field support, in-kind contribution (staff time, office space, etc), operation and maintenance

	Engineering Consulting Services	Engineering design, bidding assistance, construction supervision, and environmental and social considerations
	MoWR approved contractors	Construction works
	WUAs	Operation and Maintenance and operation of paid water meters
Output 1.2.1: One km of Water canals covered with solar panels, providing 1,000 kW of renewable energy.	FAO	Procurement of Service Provider
	MOWR/DOWR	Coordination and support in the field
	Service Provider	Engineering design and implementation of the solar panels and pumps
Output 1.3.1: 500 technical staff trained in design, installation and maintenance of irrigation, drainage and energy technologies.	FAO	Technical Assistance
	MoWR, MoA and MoE	Facilitation support
Output 1.3.2 15 WUAs supported in developing and adopting more efficient and climate sensitive water-distribution plans.	FAO	Technical Assistance
	MoA	Facilitation support
Output 2.1.1: 400 Extension Staff trained on climate resilient agricultural practices and technologies.	FAO	Technical Assistance
	MoA	Selection of Extension Staff
Output 2.1.2: Enhanced capacity of 10,000 farmers in Climate Resilient Agriculture.	FAO	Technical Assistance
	MoA	Support in the field to organize FFS
	National and regional research station	Climate adaptive technologies and practices
	Private sector	Sale of climate technologies and inputs.
Output 2.1.3: 100,000 farmers reached through ICT4CC technologies.	FAO	Technical Assistance to design content
	Electronic Media	Disseminate weather information and enhance awareness
Output 2.2.1: Technical Capacities of 90 stakeholders and knowledge of 12,000 citizens on solar energy increased through trainings and awareness raising events.	FAO	Technical Assistance
	Ministry of Agriculture	Field support
Output 2.3.1: A cadre of 150 Climate Wise Women (CWW) trained as change agents for climate adaptation.	FAO	Procurement of Service Provider and TA
	TA/Service Provider/NGO	Development of modules, training Master Trainers, identification, and training of CWWs
	MOA	Provide candidates as Master Trainers
Output 2.3.2: By year 3, 40,500 Persons sensitized for climate adaptive measures.	Service Provider/NGO	Deployment, support and supervision of CWWs
	MoA/DoA	Facilitation and sharing experiences
Output 3.1.1: A climate resilient water allocation strategy and its action/legal/coordination plan developed.	FAO	Technical Assistance
	MoEnv, MoWR and MoA	Facilitation support and policy review

Output 3.1.2. Improved national compliance practices for management of irrigation water supply.	FAO	Technical Assistance
	MoEnv, MoWR and MoA	Facilitation support and policy review
Output 3.2.1. Enhanced planning for solar rural electrification.	FAO	Technical Assistance
	MoEnv, MoE	Facilitation support and Action Plan formulation

9.2 ENVIRONMENTAL AND SOCIAL SAFEGUARDS MANAGEMENT

The SRVALI project will ensure that this Environmental and Social Management Framework is adhered to, and its sections used as guidance for the preparation of Environmental and Social Management Plans (ESMPs), including monitoring and capacity building aspects. For this purpose, an Environmental and Social Safeguards (ESS) Specialist will be hired, within the PMU, for the duration of the project. A total budget of USD 307,000 has been allocated for the salary of this person. The ESS Specialist will be responsible for ensuring overall compliance with this ESMF, including presenting and explaining the ESMF and Grievance Redress Mechanism to all stakeholders during consultations, and incorporate feedback into the project's implementation, and safeguards process. This includes ensuring that stakeholders have the capacity to implement ESMPs, and if not, provide training. The ESS Specialist will also support safeguard performance monitoring during the life of the project. This includes all aspects of environmental and social safeguards, grievance redress, stakeholder engagement, reporting, coordinating and supervising sub-activity screening and related ESMP preparation and execution. The ESS Specialist will be responsible for ensuring ESS screening for sub-activities prior to implementation, and will ensure that all ESMPs are cleared by FAO's ESMU and Iraq's MoEnv. The ESS Specialist will also be responsible for preparing the Terms of Reference of the ESMPs (using the guidance provided in Section 8, above), and the overall oversight of mitigation for any medium-risk activities using ESMPs developed during implementation, in collaboration with the entities involved in the implementation of those components (as outlined in Tables 15 and 16, above).

The ESS Specialist will receive support from the project's Social Inclusion and Gender Specialist and other technical specialists. The ESS Specialist will also work closely with the M&E unit, and the Social Inclusion and Gender Specialist, on matters related to reporting for the environmental and social safeguards and stakeholder engagement aspects of the project.

A workplan describing the implementation of the commitments, and budget, are outlined in this Environmental and Social Management Framework and included in Annex 2.

Monitoring¹²⁸. A monitoring and evaluation system will be established for the SRVALI project in keeping with GCF guidelines to report on its Integrated Results Management Framework (IRMF), designed to measure the project's core indicators. The PMU will be responsible for monitoring of the project activities with the oversight of FAO-Iraq and technical back-stopping by the FAO Regional Office where required. An M&E system will be developed with an M&E Officer and a Monitoring Information System to keep track of performance and core indicators at the national and Governorate level. All service contracts, Letters of Agreements and Memoranda of Understanding with implementing partners will specify their responsibility with respect to sex-disaggregated data collection and reporting. The implementing partners will submit reports to the PMU which will prepare a consolidated report on an annual basis. Regular meetings for monitoring and follow-up will be

¹²⁸ Additional details on SRVALI project monitoring and evaluation are available in Section 6 of Annex 2 (Feasibility Study), and Annex 11 (Monitoring and Evaluation Plans) of the FPP.

organized where problems will be discussed and, when needed, corrective measures will be recommended. FAO, as the main implementing agency, will be responsible for maintaining records on all project activities on standard reporting formats. All implementing partners will be required to provide information on the core indicators, impact, outcome and output level indicators specified in the IRMF. FAO-HQ will support the PMU in reviewing and analyzing progress reports and to assess performances against baseline and targets. FAO will manage and coordinate reporting to the GCF according to its standards procedures. Functions of the M&E include verification and respect of the social and environmental safeguards. The ESS Specialist will work in close collaboration with the M&E Officer to provide information for timely reporting on ESMF implementation, in the appropriate (M&E) format. Furthermore, in order to measure the success of the mitigation measures of ESMPs, environmental and social monitoring during the implementation of the sub-projects will be described in the ESMPs (this will be included in the Terms of Reference of the ESMP preparation). The information gathered through this will feed back into project M&E reporting (Section 8.3, above).

Appendix 1. NON-ELIGIBILITY LIST

In order to avoid adverse irreversible impacts on the environment and people, the following activities are explicitly excluded from funding:

- a. Relocation and/or demolition of any permanent houses or business.
- b. Use of the project as an incentive and/or a tool to support and/or implement involuntary resettlement of local people and village consolidation.
- c. Land appropriation.
- d. Land acquisition using eminent domain without FAO-mandated consultation and agreement of the owner.
- e. New settlements or expansion of existing settlements.
- f. Damage or loss to cultural property, including sites having archeological (prehistoric), paleontological, historical, religious, cultural and unique natural values.
- g. Resources access restriction (e.g. restricted access to farming land) that could not be mitigated and will result in adverse impacts on the livelihoods of disadvantage peoples.
- h. Activities of any kind within natural habitats and existing or proposed protected areas.
- i. Purchase of banned pesticides, insecticides, herbicides and other unbanned pesticides, unbanned insecticides and unbanned herbicides and dangerous chemicals exceeding the amount required to treat efficiently the infected area.
- j. Unsustainable exploitation of natural resources.
- k. Introduction of non-native species, unless these are already present in the vicinity or known from similar settings to be non-invasive.
- l. Significant conversion or degradation of natural habitat or where the conservation and/or environmental gains do not clearly outweigh any potential losses.
- m. Labor and working conditions involving harmful, exploitative, involuntary or compulsory forms of labor, forced labor¹²⁹, child labor¹³⁰ or significant occupational health and safety issues.
- n. Trade in any products with businesses engaged in exploitative environmental or social behavior.
- o. Activities that will use or induce the use of hazardous materials (including asbestos) or any banned chemicals.

¹²⁹ Forced labour means all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

¹³⁰ Harmful child labor means the employment of children that is economically exploitive, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health, or physical, mental, spiritual, moral, or social development.

Appendix 2. ESMF TIMELINE AND BUDGET

The Environmental and Social Safeguards (ESS) Specialist will be part of the PMU. S/he will be hired for the duration of the project, and will work in collaboration with/be supported by other project staff. (e.g. Gender Specialist, M&E Officer). The ESS Specialist will be responsible for ensuring the overall implementation of this ESMF, including: (i) conducting Environmental and Social Assessments using FAO's ESS Screening Checklist, and preparation of ESMPs for sub-project activities requiring them (in collaboration with technical experts such as the MoE technical advisor, water engineer specialist, agronomist and climate change adaptation (CCA) specialist, social inclusion and gender specialist, gender and CCA specialist, and relevant service providers); (ii) training PMU staff and relevant implementing agencies staff on the ESMF (including stakeholder engagement process and Grievance Redress Mechanism), with support from the Gender Specialist; (iii) ESMF validation: during stakeholder consultations, presenting, explaining to, and receiving feedback from stakeholders on the ESMF (including the Grievance Redress Mechanism) and incorporate, as needed, into the AWPB process; and (iv) as part of project M&E, and in collaboration with the PMU M&E Officer, preparing input on environmental and social safeguards aspects of the project for annual reporting, and for Mid-Term and Final evaluations.

Project costs of relevant staff.

Costs description	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	USD total costs
ESS safeguard specialist	70,367	70,367	70,367	57,573	19,191	19,191	307,056
Social Inclusion and Gender Specialist	76,764	76,764	76,764	76,764	76,764		383,820
Training to PMU staff	2,434	2,434	2,434	2,434	2,434	0	12,170
TOTAL	149,565	149,565	149,565	136,771	98,389	19,191	703,046

Workplan and responsibilities.

ACTIVITY	INDICATOR	YEAR 1				YEAR 2				YEAR 3				YEAR 4				YEAR 5				YEAR 6				RESPONSIBILITY
		Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	
CAPACITY BUILDING																										
Targeted training for Safeguards Specialist ESS	Training provided																									FAO ESM Unit
Capacity building of project staff/implementing partners on ESS	Training of PMU staff on ESS provided at AWPB meetings																									ESS Specialist
ESS SCREENING AND ASSESSMENT																										
Identification of sub-project activities	List of sub-activities																									ESS Specialist/FAO ESM Unit
ESS screening of sub-project activities	ESS Checklists																									ESS Specialist/FAO ESM Unit
Environmental and Social Assessment and preparation of safeguards related documentation for compliance by sub-project activity	Pre-implementation documents per sub-project activity and ESMPs																									ESS Specialist/FAO ESM Unit
ESS oversight																										
STAKEHOLDER ENGAGEMENT-IMPLEMENTATION																										
Annual Work Plan and Budget (AWPB)	Approved AWPBs																									PMU/SRVALI Steering Committee/Project ESS Specialist
Stakeholder consultations	Consultation reports																									PMU M&E Officer and Specialist/ESS Specialist/Gender Specialist
GENDER ACTION PLAN																										
Mainstreaming gender in project interventions	Details in Gender Action Plan																									Gender Specialist/PMU M&E Specialist
MONITORING AND REPORTING																										
Monitoring on ESS performance and stakeholder engagement, including Grievance Redress Mechanism	Project Progress reports																									PMU M&E Specialist/ESS Specialist/Gender Specialist/FAO ESM Unit
Mid-Term and Terminal Review and Reporting	Mid-Term and Terminal Reports																									FAO/PMU/PMU M&E Unit/External Independent Auditor
PROJECT MONITORING	Project Monitoring																									FAO/PMU/PMU M&E Unit/External Independent Auditor
* Annual Work Plan and Budget																										
** Annual Performance Report																										

Appendix 3. FAO ENVIRONMENTAL AND SOCIAL SCREENING CHECKLIST FORMAT USED TO DETERMINE RISK MITIGATION PLAN

Environmental and Social Risk Identification – Screening Checklist

Annex 1: Trigger questions

	Question	YES	NO
1	<p>Would this project:</p> <ul style="list-style-type: none"> • result in the degradation (biological or physical) of soils or undermine sustainable land management practices; or • include the development of a large irrigation scheme, dam construction, use of waste water or affect the quality of water; or • reduce the adaptive capacity to climate change or increase GHG emissions significantly; or • result in any changes to existing tenure rights¹³¹ (formal and informal¹³²) of individuals, communities or others to land, fishery and forest resources? 	x	
2	Would this project be executed in or around protected areas or natural habitats, decrease the biodiversity or alter the ecosystem functionality, use alien species, or use genetic resources?		x
3	<p>Would this project:</p> <ul style="list-style-type: none"> • Introduce crops and varieties previously not grown, and/or; • Provide seeds/planting material for cultivation, and/or; • Involve the importing or transfer of seeds and or planting material for cultivation <u>or</u> research and development; • Supply or use modern biotechnologies or their products in crop production, and/or • Establish or manage planted forests? 	x	
4	Would this project introduce non-native or non-locally adapted species, breeds, genotypes or other genetic material to an area or production system, or modify in any way the surrounding habitat or production system used by existing genetic resources?		x
5	<p>Would this project:</p> <ul style="list-style-type: none"> • result in the direct or indirect procurement, supply or use of pesticides¹³³: <ul style="list-style-type: none"> ▪ on crops, livestock, aquaculture, forestry, household; or 		x

¹³¹ Tenure rights are rights to own, use or benefit from natural resources such as land, water bodies or forests

¹³² Socially or traditionally recognized tenure rights that are not defined in law may still be considered to be 'legitimate tenure rights'.

¹³³ Pesticide means any substance, or mixture of substances of chemical or biological ingredients intended for repelling, destroying or controlling any pest, or regulating plant growth.

	<ul style="list-style-type: none"> ▪ as seed/crop treatment in field or storage; or ▪ through input supply programmes including voucher schemes; or ▪ for small demonstration and research purposes; or ▪ for strategic stocks (locust) and emergencies; or ▪ causing adverse effects to health and/or environment; or • result in an increased use of pesticides in the project area as a result of production intensification; or • result in the management or disposal of pesticide waste and pesticide contaminated materials; or • result in violations of the Code of Conduct? 		
6	Would this project permanently or temporarily remove people from their homes or means of production/livelihood or restrict their access to their means of livelihood?		x
7	Would this project affect the current or future employment situation of the rural poor, and in particular the labour productivity, employability, labour conditions and rights at work of self-employed rural producers and other rural workers?	x	
8	Could this project risk overlooking existing gender inequalities in access to productive resources, goods, services, markets, decent employment and decision-making? For example, by not addressing existing discrimination against women and girls, or by not taking into account the different needs of men and women.		x
9	<p>Would this project:</p> <ul style="list-style-type: none"> • have indigenous peoples* living outside the project area¹ where activities will take place; or • have indigenous peoples living in the project area where activities will take place; or • adversely or seriously affect on indigenous peoples' rights, lands, natural resources, territories, livelihoods, knowledge, social fabric, traditions, governance systems, and culture or heritage (physical² and non-physical or intangible³) inside and/or outside the project area; or • be located in an area where cultural resources exist? <p>* FAO considers the following criteria to identify indigenous peoples: priority in time with respect to occupation and use of a specific territory; the voluntary perpetuation of cultural distinctiveness (e.g. languages, laws and institutions); self-identification; an experience of subjugation, marginalization, dispossession, exclusion or discrimination (whether or not these conditions persist).</p>		x

	<p>¹The phrase "Outside the project area" should be read taking into consideration the likelihood of project activities to influence the livelihoods, land access and/or rights of Indigenous Peoples' irrespective of physical distance. In example: If an indigenous community is living 100 km away from a project area where fishing activities will affect the river yield which is also accessed by this community, then the user should answer "YES" to the question.</p> <p>²Physical defined as movable or immovable objects, sites, structures, group of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance located in urban or rural settings, ground, underground or underwater.</p> <p>³Non-physical or intangible defined as "the practices, representations, expressions, knowledge and skills as well as the instruments, objects, artifacts and cultural spaces associated therewith that communities, groups, and in some cases individuals, recognize as part of their spiritual and/or cultural heritage"</p>		
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Annex 2: Second Level Questions

SAFEGUARD 1 NATURAL RESOURCES MANAGEMENT

Question	Management of soil and land resources	No	Yes	Comments
1.1	Would this project result in the degradation (biological or physical) of soils	LOW RISK	MODERATE RISK Demonstrate how the project applies and adheres to the principles of the World Soil Charter	No.
1.2	Would this project undermine sustainable land management practices?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	No.

	Management of water resources and small dams	No	Yes	Comments
1.3	Would this project develop an irrigation scheme that is more than 20 hectares or withdraws more than 1000 m3/day of water?	LOW RISK	MODERATE RISK Specify the following information: a) implementation of appropriate efficiency principles and options to enhance productivity, b) technically feasible water conservation measures, c) alternative water supplies, d) resource contamination mitigation or/and avoidance, e) potential impact on water users downstream, f) water use offsets and demand management options to maintain total demand for water resources within the available supply.	No.

			<p>g) The ICID-checklist will be included, as well as appropriate action within the project to mitigate identified potential negative impacts.</p> <p>h) Projects aiming at improving water efficiency <u>will carry out thorough water accounting</u> in order to avoid possible negative impacts such as waterlogging, salinity or reduction of water availability downstream.</p>	
1.4	Would this project develop an irrigation scheme that is more than 100 hectares or withdraws more than 5000 m3/day of water?	LOW RISK	<p>HIGH RISK</p> <p>A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.</p>	No.
1.5	Would this project aim at improving an irrigation scheme (without expansion)?	LOW RISK	<p>MODERATE RISK</p> <p>The ICID-checklist will be included, as well as appropriate action within the project to mitigate identified potential negative impacts.</p> <p>Projects aiming at improving water efficiency <u>will carry out thorough water accounting</u> in order to avoid possible negative impacts such as waterlogging, salinity or reduction of water availability downstream.</p>	<p>Yes. The efficiency of existing water distribution systems in project areas will be improved by shifting from open canals flooded irrigation to closed pipes irrigation systems. Primary and/or secondary canals will be covered with solar panels to provide farming communities with renewable energy.</p> <p>interventions are linked only to areas and canals that adhere to specific selection criteria.</p>
1.6	Would this project affect the quality of water either by the release of pollutants or by its use, thus affecting	LOW RISK	HIGH RISK	No.

	its characteristics (such as temperature, pH, DO, TSS or any other?		A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
1.7	Would this project include the usage of wastewater?	LOW RISK	MODERATE RISK Demonstrate how the project applies and adheres to applicable national guidelines or, if not available, the WHO/FAO/UNEP Guidelines on Safe Usage of Waste Water in Agriculture	No.
1.8	Would this project involve the construction or financing of a dam that is more than 15 m. in height?	LOW RISK	CANNOT PROCEED	No.
1.9	Would this project involve the construction or financing of a dam that is more than 5 m. in height?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	No.

	Tenure	No	Yes	Comments
1.10	Would this project permanently or temporarily deny or restrict access to natural resources to which they have rights of access or use? Could this project result in any changes to existing <i>tenure rights</i> ¹ (<i>formal and informal</i> ²) of individuals, communities or others to land, fishery and forest resources? ¹ Tenure rights are rights to own, use	LOW RISK	PROCEED TO NEXT Q	No.

	or benefit from natural resources such as land, water bodies or forests ² Socially or traditionally recognized tenure rights that are not defined in law may still be considered to be 'legitimate tenure rights'.				
	1.10.1	Could this project result in a negative change to existing legitimate tenure rights?	MODERATE RISK Demonstrate how the project applies and adheres to the principles/framework of the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security (VGGT)	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	
	Climate		No	Yes	Comments
1.11	Could this project result in a reduction of the adaptive capacity to climate change for any stakeholders in the project area?		LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	No.
1.12	Could this project result in a reduction of resilience against extreme weather events?		LOW RISK	HIGH RISK A full environmental and social impact assessment is required.	No.

			Please contact the ESM unit for further guidance.	
1.13	Could this project result in a net increase of GHG emissions beyond those expected from increased production?		LOW RISK	PROCEED TO NEXT Q
	1.13.1	Is the expected increase below the level specified by FAO guidance or national policy/law (whichever is more stringent)?	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	LOW RISK
	1.13.2	Is the expected increase above the level specified by FAO guidance or national policy/law (whichever is more stringent)?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.

SAFEGUARD 2 BIODIVERSITY, ECOSYSTEMS AND NATURAL HABITATS

	Protected areas, buffer zones or natural habitats	No	Yes	Comments
2.1	Would this project be implemented within a legally designated protected area or its buffer zone?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	No.

	Biodiversity Conservation	No	Yes	Comments
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2.2	Would this project change a natural ecosystem to an agricultural/aquacultural/forestry production unit with a reduced diversity of flora and fauna?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	No.
2.3	Would this project increase the current impact on the surrounding environment for example by using more water, chemicals or machinery than previously?	LOW RISK	MODERATE RISK Demonstrate in the project document what measures will be taken to minimize adverse impacts on the environment and ensure that implementation of these measures is reported in the risk log during progress reports.	No.

	Use of alien species	No	Yes	Comments
2.4	Would this project use an alien species which has exhibited an invasive* behavior in the country or in other parts of the world or a species with unknown behavior? *An invasive alien species is defined by the Convention on Biological Diversity as “an alien species whose introduction and/or spread threaten biological diversity” (see https://www.cbd.int/invasive/terms.shtml).	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	No.

	Access and benefit sharing for genetic resources	No	Yes	Comments
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2.5	Would this project involve access to genetic resources for their utilization and/or access to traditional knowledge associated with genetic resources that is held by indigenous, local communities and/or farmers?	LOW RISK	<p>MODERATE RISK</p> <p>Ensure that the following issues are considered and appropriate action is taken. The issues identified and the action taken to address them must be included in the project document and reported on in progress reports.</p> <p>For plant genetic resources for food and agriculture (PGRFA) falling under the Multilateral System of Access and Benefit-sharing (MLS) of the International Treaty on Plant Genetic Resources for Food and Agriculture (Treaty), ensure that Standard Material Transfer Agreement (SMTA) has been signed and comply with SMTA provisions.</p> <p>For genetic resources, other than PGRFA falling under the MLS of the Treaty:</p> <ol style="list-style-type: none"> 1. Ensure that, subject to domestic access and benefit-sharing legislation or other regulatory requirements, prior informed consent has been granted by the country providing the genetic 	No.
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			<p>resources that is the country of origin of the resources or that has acquired the resources in accordance with the Convention on Biological Diversity, unless otherwise determined by that country; and</p> <p>2. Ensure that benefits arising from the utilization of the genetic resources as well as subsequent applications and commercialization are shared in a fair and equitable way with the country providing the genetic resources that is the country of origin of the resources or that has acquired the resources in accordance with the Convention on Biological Diversity; and</p> <p>3. Ensure that, in accordance with domestic law, prior informed consent or approval and involvements of indigenous and local communities is obtained for access to genetic resources where the indigenous and local communities have the</p>	
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			<p>established right to grant such resources; and</p> <p>4. Ensure that, in accordance with domestic legislation regarding the established rights of these indigenous and local communities over the genetic resources, are shared in a fair and equitable way with the communities concerned, based on mutually agreed terms.</p> <p>For traditional knowledge associated with genetic resources that is held by indigenous and local communities:</p> <p>1. Ensure, in accordance with applicable domestic law, that knowledge is accessed with the prior and informed consent or approval and involvement of these indigenous and local communities, and that mutually agreed terms have been established; and</p> <p>2. Ensure that, in accordance with domestic law, benefits arising from the utilization of traditional knowledge associated with genetic</p>	
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			<p>resources are shared, upon mutually agreed terms, in a fair and equitable way with indigenous and local communities holding such knowledge.</p> <p>Ensure that the project is aligned with the Elements to Facilitate Domestic Implementation of Access and Benefit Sharing for Different Subsectors of Genetic Resources for Food and Agriculture when it is the case</p>	
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SAFEGUARD 3 PLANT GENETIC RESOURCES FOR FOOD AND AGRICULTURE

	Introduce new crops and varieties	No	Yes	Comments
3.1	Would this project Introduce crops and varieties previously not grown?	LOW RISK	MODERATE RISK <ul style="list-style-type: none"> Follow appropriate phytosanitary protocols in accordance with IPPC Take measures to ensure that displaced varieties and/or crops, if any, are included in the national or international <i>ex situ</i> conservation programmes 	No.

	Provision of seeds and planting materials	No	Yes	Comments
3.2	Would this project provide seeds/planting material for cultivation?	LOW RISK	PROCEED TO NEXT Q	Yes.

	3.2.1	Would this project involve the importing or transfer of seeds and/or planting materials for cultivation?	LOW RISK	<p>MODERATE RISK</p> <ul style="list-style-type: none"> • Avoid undermining local seed & planting material production and supply systems through the use of seed voucher schemes, for instance • Ensure that the seeds and planting materials are from locally adapted crops and varieties that are accepted by farmers and consumers • Ensure that the seeds and planting materials are free from pests and diseases according to agreed norms, especially the IPPC • Internal clearance from AGPMG is required for all procurement of seeds and planting materials. Clearance from AGPMC is required for chemical treatment of seeds and planting materials • Clarify that the seed or planting material can be legally used in the country to which it is being imported • Clarify whether seed saving is permitted under the country's existing laws and/or regulations and advise the counterparts accordingly. • Ensure, according to applicable national laws and/or regulations, that farmers' rights to PGRFA and over associated traditional knowledge are respected in the access to PGRFA and the sharing of the benefits accruing from their use. Refer to ESS9: Indigenous peoples and cultural heritage. 	<p>Yes. During training through FFS, demonstration sites will use salt and drought-tolerant crop varieties commonly used in the country, which were developed and tested by the National Agricultural Research Center. These varieties are already registered and authorized by the national seed authority. No seeds will be procured and no new planting material (crop varieties) will be introduced into the country.</p>
	3.2.2	Would this project involve the importing or	LOW RISK	<p>MODERATE RISK</p> <p>Ensure compliance with Access and Benefit Sharing norms as stipulated in the International</p>	No.

		transfer of seeds and/or planting materials for research and development?		Treaty on Plant Genetic Resources for Food and Agriculture and the Nagoya Protocol of the Convention on Biodiversity as may be applicable. Refer also to ESS2: Biodiversity, Ecosystems and Natural Habitats.	
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	Modern biotechnologies and the deployment of their products in crop production	No	Yes	Comments
3.3	Would this project supply or use modern plant biotechnologies and their products?	LOW RISK	MODERATE RISK <ul style="list-style-type: none"> Adhere to the Cartagena Protocol on Biosafety of the Convention on Biological Diversity to ensure the safe handling, transport and use of Living Modified Organisms (LMOs) resulting from modern biotechnology that may have adverse effects on biological diversity, taking also into account risks to human health. Adhere to biosafety requirements in the handling of Genetically Modified Organisms (GMOs) or Living Modified Organisms (LMOs) according to national legislation or¹³⁴ Take measures to prevent gene flow from the introduced varieties to existing ones and/or wild relatives 	No.

	Planted forests	No	Yes	Comments
3.4	Would this project establish or manage planted forests?	LOW RISK	MODERATE RISK <ul style="list-style-type: none"> Adhere to existing national forest policies, forest programmes or equivalent strategies. 	No.

134 Food and Agriculture Organization of the United Nations. 2011. Biosafety Resource Book. Rome, <http://www.fao.org/docrep/014/i1905e/i1905e00.htm>

			<ul style="list-style-type: none"> • The observance of principles 9, 10, 11 and 12 of the Voluntary Guidelines on Planted Forests suffice for indigenous forests but must be read in full compliance with ESS 9- Indigenous People and Cultural Heritage. • Planners and managers must incorporate conservation of biological diversity as fundamental in their planning, management, utilization and monitoring of planted forest resources. • In order to reduce the environmental risk, incidence and impact of abiotic and biotic damaging agents and to maintain and improve planted forest health and productivity, FAO will work together with stakeholders to develop and derive appropriate and efficient response options in planted forest management. 	
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SAFEGUARD 4 ANIMAL (LIVESTOCK AND AQUATIC) GENETIC RESOURCES FOR FOOD AND AGRICULTURE

	Introduce new species/breeds and change in the production system of locally adapted breeds	No	Yes	Comments
4.1	Would this project introduce non-native or non-locally adapted species, breeds, genotypes or other genetic material to an area or production system?	LOW RISK	PROCEED TO NEXT Q	No.

	4.1.1	Would this project foresee an increase in production by at least 30% (due to the introduction) relative to currently available locally adapted breeds and can monitor production performance?	CANNOT PROCEED	LOW RISK	
	4.1.2	Would this project introduce genetically altered organisms, e.g. through selective breeding, chromosome set manipulation, hybridization, genome editing or gene transfer and/or introduce or use experimental	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	

		genetic technologies, e.g. genetic engineering and gene transfer, or the products of those technologies?			
4.2	Would this project introduce a non-native or non-locally adapted species or breed for the first time into a country or production system?	LOW RISK	MODERATE RISK A genetic impact assessment should be conducted prior to granting permission to import (cover the animal identification, performance recording and capacity development that allow monitoring of the introduced species/ breeds' productivity, health and economic sustainability over several production cycles) <ul style="list-style-type: none"> • http://www.fao.org/docrep/012/i0970e/i0970e00.htm • ftp://ftp.fao.org/docrep/fao/012/i0970e/i0970e03.pdf 	No.	
4.3	Would this project introduce a non-native or non-locally adapted species or breed, independent whether it already exists in the country?	LOW RISK	MODERATE RISK <ul style="list-style-type: none"> • If the project imports or promotes species/breeds with higher performance than locally adapted ones, ensure: feed resources, health management, farm management capacity, input supply and farmer organization to allow the new species/breeds to express their genetic potential • Follow the OIE terrestrial or aquatic code to ensure the introduced 	No.	

			<p>species/breed does not carry different diseases than the local ones</p> <ul style="list-style-type: none"> • Include a health risk assessment and farmer/veterinary capacity development in the project to ensure the introduced species/breed do not have different susceptibility to local diseases including ecto-and endo-parasites than the locally adapted/native species/breeds. 	
4.4	<p>Would this project ensure there is no spread of the introduced genetic material into other production systems (i.e. indiscriminate crossbreeding with locally adapted species/breeds)?</p>	<p>MODERATE RISK</p> <p>Introduce a) animal identification and recording mechanism in the project and b) develop new or amend existing livestock policy and National Strategy and Action Plan for AnGR</p>	<p>LOW RISK</p>	<p>No.</p>

	Collection of wild genetic resources for farming systems	No	Yes	Comments
4.5	Would this project collect living material from the wild, e.g. for breeding, or juveniles and eggs for on-growing?	LOW RISK	MODERATE RISK Guidance to be provided	No.

	Modification of habitats	No	Yes	Comments
4.6	Would this project modify the surrounding habitat or production system used by existing genetic resources?	LOW RISK	MODERATE RISK Guidance to be provided	No.
4.7	Would this project be located in or near an internationally recognized conservation area e.g. Ramsar or World Heritage Site, or other nationally important habitat, e.g. national park or high nature value farmland?	LOW RISK	MODERATE RISK Guidance to be provided	No.
4.8	AQGR Would this project block or create migration routes for aquatic species?	LOW RISK	MODERATE RISK Guidance to be provided	No.

4.9	Would this project change the water quality and quantity in the project area or areas connected to it?	LOW RISK	MODERATE RISK Guidance to be provided	No.
4.10	Would this project cause major habitat / production system changes that promote new or unknown chances for gene flow, e.g. connecting geographically distinct ecosystems or water bodies; or would it disrupt habitats or migration routes and the genetic structure of valuable or locally adapted species/stocks/breeds?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	No.
4.11	Would this project involve the intensification of production systems that leads to land- use changes (e.g. deforestation), higher nutrient inputs leading to soil or water pollution, changes of water	LOW RISK	MODERATE RISK Guidance to be provided	No.

	regimes (drainage, irrigation)?			
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SAFEGUARD 5 PEST AND PESTICIDES MANAGEMENT

	Supply of pesticides by FAO	No	Yes	Comments
5.1	Would this project procure, supply and/or result in the use of pesticides on crops, livestock, aquaculture or forestry?	LOW RISK	<p>MODERATE RISK</p> <ul style="list-style-type: none"> • Preference must always be given to sustainable pest management approaches such as Integrated Pest Management (IPM), the use of ecological pest management approaches and the use of mechanical/cultural/physical or biological pest control tools in favour of synthetic chemicals; and preventive measures and monitoring, • When no viable alternative to the use of chemical pesticides exists, the selection and procurement of pesticides is subject to an internal clearance procedure http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/E_SS5_pesticide_checklist.pdf • The criteria specified in FAO's ESM Guidelines under ESS5 must be adhered to and should be included or referenced in the project document. 	No.

			<ul style="list-style-type: none"> • If large volumes (above 1,000 litres of kg) of pesticides will be supplied or used throughout the duration of the project, a Pest Management Plan must be prepared to demonstrate how IPM will be promoted to reduce reliance on pesticides, and what measures will be taken to minimize risks of pesticide use. • It must be clarified, which person(s) within (executing) involved institution/s, will be responsible and liable for the proper storage, transport, distribution and use of the products concerned in compliance with the requirements. 	
5.2	Would this project provide seeds or other materials treated with pesticides (in the field and/or in storage) ?	LOW RISK	<p>MODERATE RISK</p> <p>The use of chemical pesticides for seed treatment or storage of harvested produce is subject to an internal clearance procedure [http://www.fao.org/fileadmin/templates/agphome/documents/Pests_Pesticides/Code/E_SS5_pesticide_checklist.pdf]. The criteria specified in FAO's ESM Guidelines under ESS5 for both pesticide supply and seed treatment must be adhered to and should be included or referenced in the project document.</p>	No.
5.3	Would this project provide inputs to farmers directly or through voucher schemes?	LOW RISK	<p>MODERATE RISK</p> <ul style="list-style-type: none"> • FAO projects must not be responsible for exposing people or the 	No.

			<p>environment to risks from pesticides. The types and quantities of pesticides and the associated application and protective equipment that users of a voucher scheme are provided with must always comply with the conditions laid out in ESS5 and be subject to the internal clearance procedure [link]. These must be included or referenced in the project document.</p> <ul style="list-style-type: none"> • Preference must always be given to sustainable pest management approaches such as Integrated Pest Management (IPM), the use of ecological pest management approaches and the use of mechanical or biological pest control tools in favour of synthetic chemicals 	
5.4	Would this project lead to increased use of pesticides through intensification or expansion of production?	LOW RISK	<p>MODERATE RISK</p> <p>Encourage stakeholders to develop a Pest Management Plan to demonstrate how IPM will be promoted to reduce reliance on pesticides, and what measures will be taken to minimize risks of pesticide use. This should be part of the sustainability plan for the project to prevent or mitigate other adverse environmental and social impacts resulting from production intensification.</p>	No. Should, however, this occur, the project already works through FFS, and IPM practices would be promoted.
5.5	Would this project manage or dispose of waste pesticides, obsolete	LOW RISK	<p>HIGH RISK</p> <p>A full environmental and social impact assessment is required.</p>	No.

	pesticides or pesticide contaminated waste materials?		Please contact the ESM unit for further guidance.	
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SAFEGUARD 6 INVOLUNTARY RESETTLEMENT AND DISPLACEMENT

		No	Yes	Comments
6.1	Would this removal* be voluntary? *temporary or permanent removal of people from their homes or means of production/livelihood or restrict their access to their means of livelihoods	CANNOT PROCEED	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	No.

SAFEGUARD 7 DECENT WORK

		No	Yes	Comments
7.1	Would this project displace jobs? (e.g. because of sectoral restructuring or occupational shifts)	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	No.
7.2	Would this project operate in sectors or value chains that are dominated by subsistence producers and other vulnerable informal agricultural workers, and more generally characterized by high levels “working poverty”?	LOW RISK	MODERATE RISK Take action to anticipate the likely risk of perpetuating poverty and inequality in socially unsustainable agriculture and food systems. Decent work and productive employment should appear among the priorities of the project or, alternatively, the project should establish synergies with specific employment and social protection programmes e.g. favouring access to some social protection scheme or form of social	No.

			insurance. Specific measures and mechanisms should be introduced to empower in particular the most vulnerable /disadvantaged categories of rural workers such as small-scale producers, contributing family workers, subsistence farmers, agricultural informal wage workers, with a special attention to women and youth who are predominantly found in these employment statuses. An age- and gender-sensitive social value chain analysis or livelihoods/employment assessment is needed for large-scale projects.	
7.3	Would this project operate in situations where youth work mostly as unpaid contributing family workers, lack access to decent jobs and are increasingly abandoning agriculture and rural areas?	LOW RISK	<p>MODERATE RISK</p> <p>Take action to anticipate likely risk of unsustainably ageing agriculture and food systems by integrating specific measures to support youth empowerment and employment in agriculture. A youth livelihoods/employment assessment is needed.</p> <p>Complementary measures should be included aiming at training youth, engaging them and their associations in the value chain, facilitating their access to productive resources, credit and markets, and stimulating youth- friendly business development services.</p>	No.
7.4	Would this project operate in situations where major gender inequality in the labour market prevails? (e.g. where women tend to work predominantly as unpaid contributing family members or subsistence farmers, have	LOW RISK	<p>MODERATE RISK</p> <p>Take action to anticipate likely risk of socially unsustainable agriculture and food systems by integrating specific measures to reduce gender inequalities and promote rural women's social and economic empowerment. A specific social value chain analysis or livelihoods/employment assessment is needed for large-scale projects.</p>	Yes. Gender inclusion is a key consideration of the project. The “Climate Wise Women” initiative, as change agents for climate adaptation will be established. Ref. Gender Action Plan.

	lower skills and qualifications, lower productivity and wages, less representation and voice in producers' and workers' organizations, more precarious contracts and higher informality rates, etc.)		Facilitation should be provided for women of all ages to access productive resources (including land), credit, markets and marketing channels, education and TVET, technology, collective action or mentorship. Provisions for maternity protection, including child care facilities, should be foreseen to favour women participation and anticipate potential negative effects on child labour, increased workloads for women, and health related risks for pregnant and breastfeeding women.	
7.5	Would this project operate in areas or value chains with presence of labour migrants or that could potentially attract labour migrants?	LOW RISK	MODERATE RISK Take action to anticipate potential discrimination against migrant workers, and to ensure their rights are adequately protected, with specific attention to different groups like youth, women and men.	No, but

		No	Yes	Comments
7.6	Would this project directly employ workers?	LOW RISK	MODERATE RISK FAO projects will supposedly guarantee employees' rights as per UN/FAO standards as regards information on workers' rights, regularity of payments, etc. Decisions relating to the recruitment of project workers are supposed to follow standard UN practices and therefore not be made on the basis of personal characteristics unrelated to inherent job requirements. The employment of project workers will be based on the principle of equal opportunity and fair treatment, and there will be no discrimination with respect to any aspects of the employment relationship, such as recruitment and hiring, compensation (including wages and benefits),	No.

			working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, etc.	
7.7	Would this project involve sub-contracting?	LOW RISK	<p>MODERATE RISK</p> <p>Take action to anticipate likely risk of perpetuating inequality and labour rights violations by introducing complementary measures. FAO projects involving sub-contracting should promote, to the extent possible, subcontracting to local entrepreneurs – particularly to rural women and youth – to maximize employment creation under decent working conditions. Also, FAO should monitor and eventually support contractors to fulfil the standards of performance and quality, taking into account national and international social and labour standards.</p>	<p>Yes, for design and installation of, and training on maintenance and operation of, covered irrigation schemes and solar panels. FAO will ensure that national and international social and labour standards will be applied, including on Operational Hazards and Safety Risks, and COVID-related safety precautions (ref. http://www.fao.org/3/ca9290en/CA9290EN.pdf).</p>

		No	Yes	Comments
7.8	Would this project operate in a sector, area or value chain where producers and other agricultural workers are typically exposed to significant occupational and safety risks ¹³⁵ ?	LOW RISK	<p>MODERATE RISK</p> <p>Take action to anticipate likely OSH risks by introducing complementary provisions on OSH within the project. Project should ensure all workers' safety and health by adopting minimum OSH measures and contributing to improve capacities and mechanisms in place for OSH in informal agriculture and related occupations. For example, by undertaking a simple health and safety risk assessment, and supporting implementation of the identified risk control measures. Awareness raising and capacity development activities on the</p>	No.

¹³⁵ Major OSH risks in agriculture include: dangerous machinery and tools; hazardous chemicals; toxic or allergenic agents; carcinogenic substances or agents; parasitic diseases; transmissible animal diseases; confined spaces; ergonomic hazards; extreme temperatures; and contact with dangerous and poisonous animals, reptiles and insects.

			needed gender-responsive OSH measures should be included in project design to ensure workers' safety and health, including for informal workers. Complementary measures can include measures to reduce risks and protect workers, as well as children working or playing on the farm, such as alternatives to pesticides, improved handling and storage of pesticides, etc. Specific provisions for OSH for pregnant and breastfeeding women should be introduced. FAO will undertake periodic inspections and a multistakeholder mechanism for monitoring should be put in place.	
7.9	Would this project provide or promote technologies or practices that pose occupational safety and health (OSH) risks for farmers, other rural workers or rural populations in general?	LOW RISK	<p>HIGH RISK</p> <p>A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.</p>	No.

		No	Yes	Comments
7.10	Would this project foresee that children <u>below</u> the nationally-defined minimum employment age (usually 14 or 15 years old) will be involved in project-supported activities?	LOW RISK	CANNOT PROCEED	No.
7.11	Would this project foresee that children <u>above</u> the	LOW RISK	<p>MODERATE RISK</p> <p>Take action to anticipate likely risk of engaging young people aged 14-17 in child</p>	No.

	nationally-defined minimum employment age (usually 14 or 15 years old), but under the age of 18 will be involved in project-supported activities?		labour ¹³⁶ by changing design or introducing complementary measures. For children of 14 to 17 years, the possibility to complement education with skills-training and work is certainly important for facilitating their integration in the rural labour market. Yet, children under the age of 18 should not be engaged in work-related activities in connection with the project in a manner that is likely to be hazardous or interfere with their compulsory child's education or be harmful to the child's health, safety or morals. Where children under the age of 18 may be engaged in work-related activities in connection with the project, an appropriate risk assessment will be conducted, together with regular monitoring of health, working conditions and hours of work, in addition to the other requirement of this ESS. Specific protection measures should be undertaken to prevent any form of sexual harassment or exploitation at work place (including on the way to and from), particularly those more vulnerable, i.e. girls.	
7.12	Would this project operate in a value chain where there have been reports of child labour?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	No.

¹³⁶ Child labour is defined as work that is inappropriate for a child's age, affects children's education, or is likely to harm their health, safety or morals. Child labour refers to working children below the nationally-defined minimum employment age, or children of any age engaging in hazardous work. Hazardous work is work that is likely to harm the health, safety or morals of a child. This work is dangerous or occurs under unhealthy conditions that could result in a child being killed, or injured and/or made ill as a consequence of poor health and safety standards and working arrangements. Some injuries or ill health may result in permanent disability. Countries that have ratified ILO Convention No.182 are obligated to develop National lists of hazardous child labour under Article 4.

		No	Yes	Comments
7.13	Would this project operate in a value chain or sector where there have been reports of forced labour ¹³⁷ ?	LOW RISK	HIGH RISK A full environmental and social impact assessment is required. Please contact the ESM unit for further guidance.	No.

¹³⁷ Forced labour is employed, consists of any work or service not voluntarily performed that is exacted from an individual under threat of force or penalty. It includes men, women and children in situations of debt bondage, suffering slavery-like conditions or who have been trafficked. "In many countries, agricultural work is largely informal, and legal protection of workers is weak. In South Asia, there is still evidence of bonded labour in agriculture, resulting in labour arrangements where landless workers are trapped into exploitative and coercive working conditions in exchange for a loan. The low wages associated with high interest rates make it quite difficult for whole families to escape this vicious circle. In Africa, the traditional forms of "vestiges of slavery" are still prevalent in some countries, leading to situations where whole families (adults and children, men and women) are forced to work the fields of landowners in exchange for food and housing. In Latin America, the case of workers recruited in poor areas and sent to work on plantations or in logging camps has been widely documented by national inspection services and other actors." (ILO, Profits and poverty: the economics of forced labour / International Labour Office. - Geneva: ILO, 2014)

SAFEGUARD 8 GENDER EQUALITY

		No	Yes	Comments
8.1	Could this project risk reinforcing existing gender-based discrimination, by not taking into account the specific needs and priorities of women and girls?	LOW RISK	MODERATE RISK Take action to anticipate likely risk of perpetuating or reinforcing inequality by conducting a gender analysis to identify specific measures to avoid doing harm, provide equal opportunities to men and women, and promote the empowerment of women and girls.	No. The project does not reinforce existing gender-based discrimination, and while national and societal risks are moderate, the project addresses the specific needs and priorities of women and girls – and SEAH – through specific actions (ref. SEAH Appendix 4 and Appendix 4.1, below)
8.2	Could this project not target the different needs and priorities of women and men in terms of access to services, assets, resources, markets, and decent employment and decision-making?	LOW RISK	MODERATE RISK Take action to anticipate likely risk of socially unsustainable agriculture practices and food systems by conducting a gender analysis to identify the specific needs and priorities of men and women, and the constraints they may face to fully participate in or benefit from project activities, and design specific measures to ensure women and men have equitable access to productive resources and inputs.	Yes, but this safeguard is not triggered because gender <i>is</i> explicitly targeted in project design/activities (Climate Wise Women initiative). Refer also to the Gender Action Plan.

SAFEGUARD 9 INDIGENOUS PEOPLES AND CULTURAL HERITAGE

		No	Yes	Comments
9.1	Are there <i>indigenous peoples*</i> living <i>outside the project area**</i> where activities will take place? ¹³⁸	LOW RISK	GO TO NEXT QUESTION	No.

* FAO considers the following criteria to identify indigenous peoples: priority in time with respect to occupation and use of a specific territory; the voluntary perpetuation of cultural distinctiveness (e.g. languages, laws and institutions); self-identification; an experience of subjugation, marginalization, dispossession, exclusion or discrimination (whether or not these conditions persist).

** The phrase "Outside the project area" should be read taking into consideration the likelihood of project activities to influence the livelihoods, land access and/or rights of Indigenous Peoples' irrespective of *physical distance*. In example: If an indigenous community is living 100 km away from a

	9.1.1	Do the project activities influence the Indigenous Peoples living outside the project area?	LOW RISK	MODERATE RISK A Free, Prior and Informed Consent Process is required Project activities should outline actions to address and mitigate any potential impact Please contact the ESM/OPCA unit for further guidance.	
9.2		Are there indigenous peoples living in the project area where activities will take place?	LOW RISK	MODERATE RISK A Free Prior and Informed Consent process is required. If the project is for indigenous peoples, an Indigenous Peoples' Plan is required in addition to the Free Prior and Informed Consent process. Please contact the ESM/OPCA unit for further guidance. In cases where the project is for both, indigenous and non-indigenous peoples, an Indigenous Peoples' Plan will be required only if a substantial number of beneficiaries are Indigenous Peoples. project activities should outline actions to address and mitigate any potential impact. Please contact ESM/OPCA unit for further guidance. A Free, Prior and Informed Consent Process is required	No, but: the war has created displacement that complicates asserting whether Indigenous Peoples are in one area or not. In the case of Kerbala, Muthanna and Najaf, it is not possible to establish in advance, with certainty, that there are Indigenous Peoples in the project area. Therefore, if and as needed, the process of Free, Prior and Informed Consent will be applied.
9.3		Would this project adversely or seriously affect on indigenous peoples' rights, lands, natural resources,	LOW RISK	HIGH RISK A full environmental and social impact assessment is required.	No.

project area where fishing activities will affect the river yield which is also accessed by this community, then the user should answer "YES" to the question

	<p>territories, livelihoods, knowledge, social fabric, traditions, governance systems, and culture or heritage (<i>physical*</i> and <i>non-physical or intangible**</i>) inside and/or outside the project area?</p> <p><i>*Physical defined as movable or immovable objects, sites, structures, group of structures, natural features and landscapes that have archaeological, paleontological, historical, architectural, religious, aesthetic or other cultural significance located in urban or rural settings, ground, underground or underwater.</i></p> <p><i>**Non-physical or intangible defined as "the practices, representations, expressions, knowledge and skills as well as the instruments, objects, artifacts and cultural spaces associated therewith that communities, groups, and in some cases individuals, recognize as part of their spiritual and/or cultural heritage"</i></p>		<p>Please contact the ESM unit for further guidance.</p>	
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9.4	Would this project be located in an area where cultural resources exist?	LOW RISK	<p>MODERATE RISK</p> <p>To preserve cultural resources (when existing in the project area) and to avoid their destruction or damage, due diligence must be undertaken to: a) verify that provisions of the normative framework, which is usually under the oversight of a national institution responsible for protection of historical and archaeological sites/intangible cultural heritage; and b) through collaboration and communication with indigenous peoples' own governance institutions/leadership, verifying the probability of the existence of sites/intangible cultural heritage that are significant to indigenous peoples.</p> <p>In cases where there is a high chance of encountering physical cultural resources, the bidding documents and contract for any civil works must refer to the need to include recovery of "chance findings" in line with national procedures and rules.</p>	<p>No. But given the cultural significance of the project area regions to the world, during project implementation, national authorities will be consulted, and – if and as needed, the FPIC process will be a further mechanism to identify potential sites of importance to indigenous peoples.</p>
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Appendix 4. SEAH RISK SCREENING CHECKLIST

Ensuring basic risk mitigation measures are in place ahead of stakeholder engagement	Responsibility	Comments	Link	Source	Comments
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Does the AE have a SEAH Policy (or SEAH provisions in another policy)?	AE	<p>Yes FAO disposes of a SEAH policy. Harassment in all its forms is contrary to the United Nations Charter, the FAO Staff Regulations and Rules and the Standards of Conduct for the International Civil Service. In line with Article 1 of the FAO Staff Regulations, the Director-General will endeavor to ensure the highest standards of conduct by staff members at all times. This Policy on Harassment, Sexual Harassment and Abuse of Authority is consistent with the principles and values of the UN system concerning the prevention of harassment and abuse of authority.</p> <p>FAO staff is strongly encouraged to ensure that every possible occasion be taken to reiterate to staff and partners, FAO's zero tolerance policy for SEAH. Country offices also have a responsibility to distribute 'No Excuse' cards (available in various languages) which include a concise and portable statement of the UN rules and prohibitions related to SEAH and provide contact details for reporting allegations. These are distributed to all deployed personnel, affiliated staff, implementing partners and contractors.</p>	http://www.fao.org/3/br629e/br629e.pdf		<p>FAO PSEA Framework</p> <p>Standards of Conduct in the International Civil Service Incorporated in 2003 in FAO rules under Manual Section 304 Appendix A</p> <p>FAO applies a zero-tolerance policy towards Sexual Harassment and Sexual Exploitation and Abuse.</p> <p>The relevant FAO policies that address SEAH are Policy on Sexual Harassment</p> <p>Policy on the Prevention of Harassment, Sexual Harassment and Abuse of Authority</p> <p>Protection from Sexual Exploitation and Sexual Abuse (PSEA)</p> <p>Whistleblower Protection Policy</p>
If the AE has contracted out stakeholder consultations, does that entity have a SEAH Policy (or are they contractually	AE/Consultant	Stakeholder consultations were not outsourced			<p>The FAO policy on sexual exploitation and sexual abuse (PSEA) relevant policies are also binding to person of any contractual status with FAO.</p> <p>As per contracts with external entities, PSEA measures also apply, in accordance with relevant contractual clauses in agreements. Although FAO Implementing Partners are now required to sign to confirm that they understand that any SEAH activities committed by their staff in the course of</p>

bound to apply the AE's)?					implementing FAO contracts will be automatic grounds for termination and confirm that they have internal reporting procedures etc UN Agencies, including FAO are now required to undertake an assessment of capacity of implementing partners before entering into partnerships in line with the UNITED NATIONS PROTOCOL ON ALLEGATIONS OF SEXUAL EXPLOITATION AND ABUSE INVOLVING IMPLEMENTING PARTNERS. This can be also done through the PSEA Network at Country level. As per FAO policies and Iraq PSEA FP, specific measures will be taken prior to project implementation and recruitment-related procedures (clear-check, mandatory trainings for different staff, etc.).
Does the AE have an employee Code of Conduct?	AE	Yes, FAO disposes of a personnel code of ethical conduct (2021) that provide clear indication about PSEA and Prevention of Sexual Harassment, Abuse of Authority and Harassment.	https://www.fao.org/3/cb4863en/cb4863en.pdf	FAO	FAO has an established Code of Conduct for its employees FAO Code of Ethical Conduct
If the AE has contracted out stakeholder consultations, does that entity have an employee Code of Conduct (or are they contractually bound to apply the AE's)?	AE/Consultant	Stakeholder consultations were not outsourced			For this project, stakeholder consultations were not outsourced. However, as indicated above, in case a contract/LoA is signed with an implementing partner, FAO is required to undertake an assessment of capacity of implementing partners before entering into partnerships in line with the UNITED NATIONS PROTOCOL ON ALLEGATIONS OF SEXUAL EXPLOITATION AND ABUSE INVOLVING IMPLEMENTING PARTNERS During the assessment proof of evidence of the organization code of conduct is required. FAO PSEA policy follows a survivor-centered approach, and this is incorporated in the FAO Iraq PSEA Action Plan.
Have AE employees and	AE/Consultant	PSEA and training on Harassment, Sexual Harassment and Abuse of Authority	https://www.fao.org/3/nd482	FAO	PSEA training is among the mandatory trainings for all FAO personnel of all categories. Below is the list of mandatory trainings on SEAH and Ethical Code

consultants conducting stakeholder consultations been trained on preventing SEAH and the Code of Conduct?		training is among the mandatory trainings for all FAO employee	en/nd482en.pdf		<p>that all FAO employees must complete at the start of their employment.</p> <p>Prevention of Sexual Exploitation and Abuse (PSEA) (Mandatory)</p> <p>Prevention of Harassment, Sexual Harassment and Abuse of Authority (Mandatory)</p> <p>United Nations Course on Working Together Harmoniously (Mandatory)</p> <p>Ethics and Integrity at the United Nations (Mandatory)</p> <p>FAO Whistleblower Protection Policy (Mandatory)</p> <p>In addition, at Country level the following applies:</p> <ul style="list-style-type: none"> - FAO Action Plan for the Prevention of SEA and SH/SEA Risk assessment (PSEA Network in Iraq which includes FAO) - Training , awareness sessions for staff and IPs on standards code of conducts, PSEA, AAP etc. - Community based complaints mechanisms set up part of FAO interventions - Awareness sessions of FAO beneficiaries on their rights and entitlements, including PSEA. - Communication materials in languages, formats that are easily understood, accessible, gender sensitive and culturally appropriate developed for FAO
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					<p>beneficiaries. PSEA awareness raising materials and sessions will be delivered directly to the community the project is operating in.</p> <ul style="list-style-type: none"> - PSEA & Awareness sessions for FAO PSEA Focal points and staff at regional level etc. - The Gender Mainstreaming Training for beneficiaries, project staff, and other relevant stakeholders, has a dedicated section related to GBV, its types, and mitigation measures. This training will be delivered by the gender expert. In addition, dedicated PSEA Training and Reporting will be delivered to all project staff members.
Does the AE have a grievance mechanism in place in case of early SEAH complaints from stakeholder engagement?	AE	Yes, FAO has a GM in place for early SEAH complaints. FAO has a specific channel for SEA, which goes directly to the Office of the Inspector General. There is a 24h/ 7 days hotline for contacting (comment by ESM)	https://www.fao.org/environmental-social-standards/en/	FAO	<p>SEAH complaints can be lodged through FAO's Office of the Inspector General by email, phone or online using Ethics Point</p> <p>FAO Iraq, in line with FAO procedures, also developed a FAO IRAQ Community Feedback and Response Mechanism Standard Operating Procedures, which include SEHA complaints.</p> <p>Beneficiaries will be trained about reporting mechanisms by facilitators from the same gender, and about the different reporting channels available within FAO and within the country. Additionally, FAO staff will be equipped with service-referral mapping inclusive of different channels to ensure autonomy and confidentiality (FAO channels, and PSEA network channels) enabling them to respond to cases and refer cases to specialized UN centers without risking triggering stigma. Such training is</p>

					included as an essential part under the Gender Mainstreaming Training for FAO Iraq.
Does the AE have a specialist on staff who can undertake the more advanced assessment in Stage 4 as well as deal with early SEAH complaints if they arise; and if not, does the AE require budget and /or assistance with this?	AE	FAO confirms that sufficient technical resources and capacities to ensure compliance with GCF requirements regarding SEAH are available (see also the FAO Annual Report on Corporate Policy, Processes and Measures on the Prevention of Harassment, Sexual Harassment and Sexual Exploitation and Abuse,)	https://www.fao.org/3/nk304en/nk304en.pdf	FAO	FAO has PSEA specialists at global level that can support country-level PSEA Focal Points to undertake risk assessments. The Project will have a Gender and Social Specialist with extensive experience of local context.
Contextual Level (and Baseline Conditions)	Reference	Comments			
Does the country have laws prohibiting sexual harassment / stalking generally?	National /State law (Gender Assessment)	Yes, the Iraqi Penal Code (No. 111 of 1969, 2010) does not contain any legal text that uses the term harassment. Instead, other words are used to denote physical or sexual harassment, such as assault by “force”, “menaces”, or “deception”, as stipulated in Article 396	https://www.refworld.org/docid/452524304.html	UNHCR	

Do labor laws prohibit sexual harassment in the workplace?	National/State law (Gender Assessment)	Yes, the Iraqi Labor Law No. (37) Of 2015 regulates the relationship between employers and workers and outlines their respective rights and obligations. This includes wages, working hours, leave entitlements and working conditions as well as harassment. The law prohibits sexual harassment in the profession, whether it is in terms of searching for work, vocational training, employment, or terms and conditions of work (<i>"Any other behavior that creates an intimidating, hostile or degrading work environment"</i>).	https://natlex.ilo.org/dyn/natlex2/r/natlex/feed/details?p3_i sn=96652&cs=108itVjnBuyjUBu9lZ3zmvzNZteNsXKONQW5yvSckE9ybSZIDW5vmjPukyNx7h-hClrVfkyvSbE8jP3RBEzRRzg	ILO	
Does the country have laws prohibiting intimate partner violence (IPV)?	National/State law (Gender Assessment)	Yes/No, even though the Iraqi Constitution (2005) prohibits all forms of violence and abuse within family and society. Iraq's criminal code, applicable in both Baghdad-controlled territory and the Kurdistan Region, criminalizes physical assault but lacks explicit mention of domestic violence. On the contrary, the Kurdistan Region of Iraq has a law on domestic violence (Act n. 8, 2011).			
What is the prevalence of GBV in the country?	National statistics (Gender Assessment)	According to UN-Women [UNW, 2023], In Iraq, about 1.32 million people (75% women and adolescent girls) are at risk of different forms of GBV, with 77 percent of GBV incidents linked to domestic violence, which has reportedly increased during COVID-19.	https://www.unicef.org/iraq/stories/violence-against-women-and-girls-scourge-affecting-several-generations#:~:text=In%2	UNICEF based on OCHA data	

			Oiraq%2C%20about%201.32%20million, reportedly%20increased%20during%20COVID%2019.		
What is the legal age a person can marry?	National law	Although Iraq's Personal Status Law (n.188, 1959 and amendments) sets the legal age for marriage at 18, the law also allows a judge to permit girls as young as 15 to be married in 'urgent' cases. The number of girls that are married at the age of 15 or below	https://evaw-global-database.unwomen.org/es/countries/europe/serbia/2005/family-law-official-gazette-of-the-rs-no-18-2005	UNW	
Despite any laws, what is the prevalence of child marriage in the country?	National statistics	In 2022, Iraq was home to over 3 million child brides; 3 in 10 young women were married in childhood. Of these 28% married before the age of 18 and 7% before the age of 15.	https://data.unicef.org/wp-content/uploads/cp/child-marriage/Cchild-marriage-profile_IRQ.pdf	UNICEF	
What is the income level of the country?	World Bank ranking (H, HM, M, LM, L)	Iraq is an upper middle-income country	https://data.worldbank.org/country/iraq	WB	

Where does the country rank on global gender indices?	UNwomen database Reports / Other	<p>Overall Global Gender Gap Index: 54%</p> <p>Global Gender Gap Educational Attainment Subindex: 81%</p> <p>Global Gender Gap Health and Survival Subindex: 97%</p> <p>Global Gender Gap Political Empowerment Subindex: 14%</p> <p>Global Gender Gap Economic Participation and Opportunity Subindex: 23%</p>	https://data.unwomen.org/arab-states/country/iraq	UNW	
Is there a national action plan on GBV and/or sexual harassment?	UNFPA/National government	<p>Yes, Iraq is currently executing the National Strategy to Combat Violence against Women and Girls 2018-2030. Since Iraq is determined to achieve the Sustainable Development Goals (SDG) 2015-2030 by adopting plans and policies that are responsive to Iraq's Vision 2030, the Women's Empowerment Department under the General Secretariat for the Council of Ministers, in cooperation with UNFPA, decided to update the National Strategy to accommodate all contextual changes post-2014, and to respond to the SDG Goal Five, in particular, Target Two "Eliminate all forms of violence against all women and girls in the public and private spheres, including trafficking and sexual and other types of exploitation". The updated strategy will serve as a guiding tool for all sectors and entities to prevent</p>	https://iraq.unfpa.org/sites/default/files/publications/default/files/the-national-strategy-to-combat-violence-against-women-and-girls-2018-2030_0.pdf	UNFPA	

		and respond to violence against women and girls in Iraq.			
Does the country have specialized services for survivors of GBV (at both the national and local level) including women's shelters, adequate medical facilities and facilities which provide psycho-social support?	WHO/ NGOs	There is no structure and public service to GBV survivors. Services are provided by local and international NGOs. Nonetheless, in 2022 the state issued the First gender-based violence strategic plan that will also address GBV survivors needs including shelters, adequate medical facilities and facilities which provide psycho-social support	https://reliefweb.int/report/iraq/first-gender-based-violence-strategic-plan-launched-iraq-enar	WHO	
Is the country currently experiencing war, internal conflict or humanitarian disaster?	National / Media	Despite notable improvements during the past few years, Iraq in 2024 still faces political instability and prevailing ethnic/religious tensions.	https://ec.europa.eu/echo/files/funding/hip2024/echo_irq_bud_2024_91000_v1.pdf	EU	
Project Level Risks	Responsibility	Comments			

Are women concentrated in lower paid roles and mostly line-managed and supervised by men?	AE	Yes. In Iraq, women's wages are lower than men's even in professions where women make up the majority of the workforce, such as in the health care and welfare system. The wage gap between women and men is -51.8%	https://www.ilo.org/wcmsp5/groups/public/---arabstates/---ro-beirut/documents/publication/wcms_850359.pdf	ILO	<p>The project will not overlook existing gender inequalities in access to productive resources, goods, services, markets, decent employment and decision-making. On the contrary, gender inclusion is a key project consideration of the project, and the "Climate Wise Women" initiative, as change agents for climate adaptation, will be established.</p> <p>In addition, project activities related to the development and implementation of the Climate Wise Women initiatives, which will benefit from the consultation of FAO gender specialists/advisors, will ensure that such activities do not touch on sensitive gender dynamics in the community, creating intra-family and intra-community disputes and disagreements.</p>
Are piece-rate systems or other performance-related pay structures used where individuals are in control of how much other workers get paid?	AE	No			
Will project workers have control over life-changing resources such as the allocation of compensation for displacement or access to basic or highly	AE	Project workers will not be displaced. All workers will be selected within a radius of 25 miles from the worksite. In case of displaced workers the contracting document with companies will contain provision to ensure that compensation for displacement or access to basic or highly sought-after resources are granted.			

sought-after resources?					
Will security personnel be used? Will they be armed?	AE	No, the project will not employ armed security personnel			
Will there be an influx of male workers into the project area (as opposed to only using local labor)?	AE	The project will aim at recruiting all workers in project areas. Therefore, there will be no influx of male workers in project areas.			
Are local communities poor and lacking basic resources?	AE	Although poverty rate is higher in rural areas, local communities, by large, do not lack basic resources.			
Will migrant workers be employed by the project, especially those who may not speak the local language? Will they be employed on a temporary or daily basis?	AE	Hiring of workers will be made following the laws and regulations of the Republic of Iraq and workers will need to abide with the FAO code of conduct and FAO policies. The project do not expect to have migrant workers.			

Will project workers all have formal contracts?		Yes, hiring of workers will be made following the laws and regulations of the Republic of Serbia (Labor Act 71, 1987 and amendments). These regulate contracts, wages all the other aspects related to labor. In all cases, workers will need to abide with the FAO code of conduct and FAO policies.			
Will goods frequently be transported over long distances, especially through poor and/or remote communities?	AE	The project will require transport of good and materials over medium distances, but it will not have to pass through poor and/or remote communities.			
Are worksites or project activities based in remote locations? Will worksites be spread out, with isolated spaces?	AE	Worksites will not be in remoted areas of the country.			
Will project workers live in the community or in worker housing? If in worker housing, is it mixed sex?	AE	As workers will be selected from communities from the worksite, these will not require the establishment of camps or other temporary accommodation structures. In case such need will arise, provision to organize gender sensitive camps will be included in the contracting documents of service providers.			

Will workers be required to travel long and potentially unsafe distances, and at times of day when transport options may be limited?	AE	Workers will be selected from communities.			
Will the project operate in highly pressurised work environments, with tight seasonal deadlines?	AE	The project will work with tight seasonal deadlines but it will not be in highly pressurized work environments.			
Is the project located within a male-dominated sector where female workers will be employed?	AE	Construction in Iraq is a sector where women employment does not appear being reported. Nonetheless, employment will be open and accessible to all without any gender restriction.			
Have communities, especially low income/ vulnerable communities, voluntarily	AE	Communities have not raised any raised concerns in relation to SEAH/GBV during consultations.			

raised concerns in relation to SEAH/GBV during consultations?					
Have any changes been made to project design or adaptive management undertaken due to concerns of stakeholders and communities? (If yes, work through this checklist again)	AE	No, stakeholders have not raised concerns.			

Appendix 4.1. SEAH Risk Mitigation Matrix

Description of [Potential] Risks	Likelihood (LMH)	Potential Impact (LMH)	Risk Mitigation Measures
Contextual Risks			
National Level Risks <ul style="list-style-type: none"> • Lack of strong legal system to enforce laws • Low levels of prosecution of SEAH incidents 	M	M	<ul style="list-style-type: none"> • Ensure presence in the PMU of a gender and social expert with extensive experience of local context • Ensure Constant coordination between the project gender and social expert, the National Gender Coordinator, and the Regional Gender Coordinator in FAO. • Work with relevant gender/social welfare Government ministries and departments, other anti-gender-based violence organizations or networks.

			<ul style="list-style-type: none"> • Strong enforcement of the AEs SEAH (and/or its equivalent) policy. • Enforcement of SEAH related laws as it pertains to the project/program. • Liaise institutional stakeholders with providers of SEAH training (e.g. UNFPA, UNWOMEN, UNVEF, OCHA among others) to project stakeholders and communities.
Societal Risks <ul style="list-style-type: none"> • Sociocultural norms that do not challenge SEAH • Low levels of awareness on rights, SEAH etc. • Limited services for SEAH survivors 	M	M	<ul style="list-style-type: none"> • Ensure regular visits to communities and local institutions of the gender and social expert to work with local government or authorities and to sensitize community members on SEAH safeguarding. • Identify champions where applicable to act as allies on SEAH safeguarding. • Provide SEAH training to project stakeholders and communities.
Project Risks			
<ul style="list-style-type: none"> • Limited SEAH protection services in project/program area • High rates of femicide or sexual violence (e.g., used as a tactic of war) in project/program areas • Women fear that participation or employment in the project/program may exacerbate ongoing forms of SEAH. 	L	L	<p>As above societal risks and;</p> <ul style="list-style-type: none"> • Trough the work of the Gender and Social expert of the project, support local officials in campaigns on prevention of SEAH; • Leverage existing relationships with government stakeholders; identify champions / supporters / changemakers within the government (specifically on SEAH). • Conduct SEAH awareness-raising and sensitization campaigns within the community. • Inform the community the community on SEAH risks, explain how to report them and the services available including SEAH GRM established by the project. • FAO staff will be equipped with service-referral mapping inclusive of different channels to ensure autonomy and confidentiality (FAO channels, and PSEA network channels) enabling them to respond to cases and refer cases to specialized UN centers without risking triggering stigma. • Beneficiaries will be trained about reporting mechanisms by facilitators from the same gender.

Appendix 4.2. FAO IRAQ Community Feedback and Response Mechanism Standard Operating Procedures



Food and Agriculture Organization
of the United Nations

منظمة الأغذية والزراعة
للأمم المتحدة



FAO IRAQ

Community Feedback and Response Mechanism

Standard Operating Procedures (v01)

Baghdad, Iraq
June 2022

Appendix 5. CONFLICT RISK ANALYSIS

Introduction: Agriculture, natural resources, food security and nutrition are often at the roots of conflict, crisis, and disputes. Particularly in fragile, conflict-and violence affected (FCV) contexts, FAO is dedicated to making sure that its work avoids contributing to divisions, disputes, and violent conflict, and does no harm. Where possible, positive contributions to local peace related to the Organization's mandate should be identified and supported, as first formalized in 2018 in the [Corporate Framework to Support Sustainable Peace in the Context of Agenda 2030](#).

Context: Since 2003, Iraq has been affected by several conflicts of different intensity and nature including several internal disputes among armed groups for power and territory. Although sporadic and fragmented armed violence persists in different forms and regions of the country, Iraq is relatively stable. The challenges Iraq is facing have been exacerbated by the effects of climate change impacting the country as well as district's dynamics over disputes and eventually conflict.

With regards to the SRIVALI project, a survey was organized in target areas with the objective of further understand the risk and nature of disputes and conflict. Out of the total number of the 472 respondents, 140 (29.66%) have signalled problems in the community requiring collective action, in the form of disputes/ disagreements. Based on this general view, the 4 most predominant sources of disputes selected by the respondents include: (I) access, allocation, use of water resources (73.57%), (II) the manifestation of violent behaviours (30.00%), (III) land ownership related factors between farmers and pastoralists (34.29%), and (IV) access and use of land for crop and livestock production (28.57%).

Actors/ stakeholders of water disputes: For a better understanding of the water related disputes / disagreements, the assessment has also examined various actor/ stakeholder categories that might be part of such dynamics. As a general overview, farmers (64.22% of the respondents), community level water user associations and municipal water management authorities (21.43% of the respondents), and central level water management authorities (17.86% of respondents) are the main actors of water related disputes.

Customary mechanisms for dispute/ disagreement resolution: The survey has explored the existence of customary dispute/ disagreement resolution mechanisms, information which is relevant in case such dynamics arise during project implementation. Two major aspects were assessed: (I) awareness of respondents of such mechanisms, and (II) concrete examples of them. Out of the total 472 respondents, 313 (66.31%) were aware of the existence of such mechanisms. Out of the 313 respondents, 18.21% are female, 81.79% are male. As per the general findings, the elders' committees/ councils are the most known mechanisms among the respondents (selected by 92.65% of the respondents), followed by dispute resolution committees (54.31%). The findings show that there are also special mechanisms dealing with land and water related issues, such as land committees, water user associations and water resource management or watershed management committees.

Conclusions: Considering the project's proposed outcomes, outputs and activities, the most relevant findings of the context assessment are:

- Water resource related disputes/ disagreements are the most prevalent across target governorates in general, and in each governorate in particular, with more than 73% of the respondents signalling that water resources are the main source of dispute/ disagreements.
- Looking more in-depth into the drivers of water related disputes/ disagreements, the survey has shown that the main factors that contribute to these are related to:

- the capacity of water management bodies to cooperate and develop complementary and sustainable strategies that have positive cumulative impact on the water sectors and water users;
- the capacity of the water management bodies to ensure safe and sufficient water resources for the diverse water user groups;
- the delays in initiative implementation at higher administrative levels;
- the growing number of water user groups looking to control declining water resources; and
- in some cases, the refusal of certain water user groups, like farmers, to adopt new, more efficient irrigation and water management techniques, due to their little understanding and/ or lack of necessary resources.
- As for the existing customary mechanisms that can support the management and resolution of such disputes/ disagreements, the survey has shown that the most prevalent mechanisms are the elders' committees/ councils, but there are also specific water management bodies (e.g. water user associations and water resource/ watershed management bodies) that have a role in managing/ resolving such dynamics.

Dynamics and actors that might experience unintended negative development trends because of project implementation, thus potentially eroding peaceful community relations, the project will ensure – among other - that:

- The inclusive nature, participatory character, and local ownership level of all project activities, to ensure that the various water user groups would benefit (directly or indirectly) from project activities and results.
- During project implementation, the PMU team will review project activities related to the capacity building and technical support of water management bodies and their extension services,
- Project activities related to the development and implementation of the Climate Wise Women initiatives, which will benefit from the consultation of FAO gender specialists/ advisors, to ensure that such activities do not touch on sensitive gender dynamics in the community, creating intra-family and intra-community disputes and disagreements.
- Implementation of a context-sensitive programming workshop (Programme Clinic) at each revision/preparation of the Annual Work Plan and Budget with the aim of: (i) Familiarizing the project staff, partners, service providers and other relevant stakeholders (as the situation warrants) with the contextual findings of the assessment and FAO procedure and approach related to dispute/conflict resolution; (ii) complementing the findings with other relevant dispute/ disagreement drivers which might have not been revealed at design; (iii) Assessing the impact of project activities on the development trends of the identified dispute/ disagreement drivers; and (iv) .Developing a list of recommendations for adjusting project activities that show the risk of affecting in a negative manner the identified dispute/ disagreement drivers.

Coherently, the SRVALI project is designed to facilitate a major paradigm shift by climate resilience across target governorates. Based on the data from the survey and from discussions with communities and institutions (local and central) the project risks of increasing conflict in the area are low. On the contrary, as the project will address some of the most perceived drivers of dispute/conflict, its potential of contribution to conflict resolution is high. For the choice of its specific investment's sites during the inception phase, the project will constantly coordinate with identified stakeholders across institutions and communities to ensure that the project can be implemented effectively and efficiently.

As detailed in the Full Proposal (FP) and the Environmental and Social Management Framework (ESMF), the project will invest in preventing and resolving conflicts among and within communities related to project activities. Therefore, conflict assessment, prevention and management are a key

element of the project implementation mechanisms chosen, especially for Component 1, land restoration (see Annex 6, ESMF, Section 7.2).

Investments in improving land and natural resource management get to the heart of what communities in Iraq perceive as both their most pressing security concerns, economic need and the factors that contribute to persistent conflict and competition. The project's investments in ensuring access to water to farmers and to support knowledge transfer as well as better water and energy governance will contribute not just to climate change adaptation, but also to community-based peacebuilding.

Concerning security, according to the 2009 Guidelines for Determining Acceptable Risk, two tools were identified to assess acceptable risk: The Security Risk Assessment (SRA) to determine security risk levels, and a Programme Criticality assessment (PCA) which determines criticality levels of programmatic outputs in relation to the strategic objectives of the UN within the country.

In Iraq, as in any other country, there is one UN Security Risk Management system which balances risk and criticality of programme delivery. The Programme Criticality (PC) Framework is closely linked to the United Nations security risk management (SRM) process to determine levels of acceptable security risk for programmes and mandated activities implemented by UN personnel. In Iraq, the UN jointly (including FAO) just revised the Programme Criticality Assessment (PCA), which is now active and will remain active until the 1st of June 2024. A full external Programme Criticality Assessment will be conducted mid-way through 2024 to reflect the continuously changing context in Iraq. The timing of this full assessment would be designed to align with the adoption of the new UNSDCF outcomes, which in turn will make up the majority of the future PCA outputs implemented by UN agencies, including FAO. Across the PC, FAO Iraq is implementing outputs covering PC1¹³⁹ to PC4¹⁴⁰ activities across the country including the governorates targeted by the SRVALI project which are according to the Area Security Risk Management (ASRM) medium-risk level (PC1 to 3). FAO Iraq PCs personnel will continue operating as per the PC list determined level.

Finally, in recent years, FAO has developed corporate tools, guidance and training on context analysis, conflict sensitivity and sustaining peace. These guides and tools have been jointly developed with Interpeace, a global peace-building organisation, after extensive field-testing and feedback. FAO plays a leading role in UN-wide initiatives combining climate change and peace-building efforts such as the [2023 thematic review on climate security and peace building](#). Knowledge and experience gained within such initiatives as well as the long lasting experience in Iraq across the country and with communities will serve ensuring that the risk disputes and conflicts in the project areas are addressed efficiently and effectively.

¹³⁹ How to establish geographical scope and timeframe

¹⁴⁰ Rating the contribution of Outputs to Strategic Results