



The World Bank

Insect Farming for Human Food, Animal Feed, and Fertilizer (IF4FFF) for Forcibly Displaced - A Pilot Program (P180806)

Concept Environmental and Social Review Summary

Concept Stage

(ESRS Concept Stage)

Date Prepared/Updated: 10/25/2023 | Report No: ESRSC03533



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I. BASIC INFORMATION

A. Basic Project Data

Country	Region	Project ID	Parent Project ID (if any)
World	OTHER	P180806	
Project Name	Insect Farming For Human Food, Animal Feed, And Fertilizer (if4fff) For Forcibly Displaced - A Pilot Program		
Practice Area (Lead)	Financing Instrument	Estimated Appraisal Date	Estimated Board Date
Agriculture and Food	Investment Project Financing		3/29/2024
Borrower(s)	Implementing Agency(ies)		

Proposed Development Objective

The development objective is to: Pilot insect production and processing for increased resilience for forcibly displaced and host communities.

Financing (in USD Million)	Amount
Total Project Cost	0.00

B. Is the project being prepared in a Situation of Urgent Need of Assistance or Capacity Constraints, as per Bank IPF Policy, para. 12?

No

C. Summary Description of Proposed Project Activities

The pilot program focuses on forcibly displaced women and youth by helping them produce, process, and market micro-livestock, or insects, for human food, animal feed, and fertilizers (IF4FFF). The improved economic resilience from insect farming will provide income, livelihoods, and food security for forcibly displaced populations and would reduce the negative spillovers from FCV and help these communities recover, thereby reducing the risk of future violence.

D. Environmental and Social Overview



D.1 Overview of Environmental and Social Project Settings

The task will be implemented in four countries: Chad which hosts 500,000 refugees; Colombia, which hosts 1.8 million refugees; Mexico, which hosts 600,000 refugees; and Uganda, which hosts 1.5 million refugees. The countries were selected based on their different forcibly displacement contexts. The pilot intends to learn as much as possible in terms of the four sites' varying locations and characteristics. The pilots will be implemented within a UNHCR-managed refugee-hosting location in each of these four countries, with the location selected where there are most needs for livelihood and income generation. Site selection will be determined prior to project effectiveness.

The implementation approach will be tailored to the local environmental circumstances and socioeconomic needs in the pilot locations. The beneficiaries will be identified based on interest and risks/needs. Refugees who can benefit most from income generation (e.g., women who may otherwise apply negative coping mechanisms to feed their families) will be given priority consideration for employment.

D.2 Overview of Borrower’s Institutional Capacity for Managing Environmental and Social Risks and Impacts

The project will be implemented by UNHCR's Livelihoods offices in these countries, with support from the UNHCR headquarters in Geneva. UNHCR will be accountable for the implementation of the project and day-to-day operations of the project. UNHCR has experience working with the World Bank through the Joint Data Center for Forced Displacement. Although this would be UNHCR's first time working as a direct implementer of a World Bank financed project, they have previously implemented components and sub-components of other World Bank projects implemented by client countries and/or other UN agencies in similar, low-capacity Fragile and Conflict Situation (FCS) settings.

UNHCR has a set of environmental guidelines, as well as several social inclusion and protection guidelines, which provide a framework upon which to meet ESF requirements. During project appraisal, an assessment to ascertain gaps between the ESF and UNHCR's environmental and social systems will be conducted. The assessment will confirm whether the policy will address the risks and impacts of the project, and will enable the project to achieve objectives materially consistent with the Bank’s Environmental and Social Standards (ESSs). This gap assessment will include a E&S capacity assessment.

UNHCR has E&S capacity at its headquarters, which will liaise both with the World Bank as well as with the four refugee-hosting locations. Most refugee camps have a Environment Coordinator as well as a Local Environmental Task Force. The Environmental and Social Management Framework (ESMF) will include guidance for the refugee-hosting sites specific to informing the UNHCR team onsite of what is needed to manage project-related E&S risks. The site-specific ESMPs will each include a section on capacity strengthening.

II. SCREENING OF POTENTIAL ENVIRONMENTAL AND SOCIAL RISKS AND IMPACTS

A. Environmental and Social Risk Classification (ESRC)

Moderate

A.1 Environmental Risk Rating

Moderate

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The environmental risk rating is Moderate due to the limited, site-specific, temporary, and reversible possible adverse environmental impacts relating to worker health and safety, both in the construction of the insect tent as well as with respect to worker health and safety. More specifically, there are minimal or negligible risk to and impacts on human health and/or the environment, and project sites are located away from environmentally sensitive areas. A further risk assessment screening during project preparation will ascertain whether there are any potential adverse risks and impacts beyond those related to worker health and safety. Routine safety precautions are expected to be sufficient to prevent accidents and are easily mitigated in a predictable manner. These impacts will be mitigated through a very simple ESMF to be included in the Operations Manual. There will be no self-standing ESMF for this project. Four site-specific ESMPs will be developed after Bank Board approval, as site selection may still fluctuate between now and start of project implementation. UNHCR has the capacity to implement, manage, and mitigate these limited possible adverse environmental impacts.

A.2 Social Risk Rating

Moderate

The social risk is classified as moderate at this stage of project preparation. This is due to the limited information available about the potential sites across the 4 countries with respect to Labor management procedures, land availability and presence of Indigenous People with respect to ESS2, ESS5 and ESS7 and institutional arrangements to manage social risks at respective country level. The risk rating will be further assessed prior to appraisal based on information available and stakeholder engagements. Overall, the project will have positive benefits in terms of provision of improved nutrition and livelihoods for the beneficiaries and production of fertilizers. While the overall social benefits are expected to be positive, the anticipated project risks include social exclusion based on disability, age and gender identity since the project will mainly focus on women and youths as the beneficiaries. In addition, inadequate engagement of various stakeholders at project site level specially the hosts and the local government also presents a risk. The project will be required to engage all relevant stakeholders and not only gather their feedback, but also educate them on the benefits of insect farming and project benefits in totality. These potential impacts and risks and corresponding mitigation measures will be set out in the Project’s ESMF, incorporated in the Operations Manual, and Stakeholder Engagement Plan (SEP) as well as the site-specific ESMPs. The SEP will be developed incorporating stakeholder mapping and a communication strategy to guide the interactions with Project beneficiaries and other stakeholders and ensure that a Project Grievance Redress Mechanism (GRM) is in place for addressing grievances.

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B. RELEVANCE OF STANDARDS AND POLICIES AT CONCEPT STAGE

B.1 Relevance of Environmental and Social Standards

ESS1 Assessment and Management of Environmental and Social Risks and Impacts

Standards for good agricultural practices for larvae production are well-developed in the EU as well as Korea but are still under development in all of the countries participating in this project. Thailand has recently developed a Good Agricultural Practice (GAP) standard for cricket farming, which outlines insect production requirements related to the farm’s location, design, layout, administration, disease prevention, and waste management, among others. By following the GAP standard, Thai farmers are prepared for export markets, which have similar quality and safety standards. Kenya has similarly developed a national standard (KS 2711:2017) for insect-based animal feed, which specifies requirements for the dried insect products used as protein for compound animal feeds. It is expected that



this project will build upon these standards. Project preparation will include identifying relevant national legislation for each of the participating countries.

Areas where “Use of Borrower Framework” is being considered:

N/A

ESS10 Stakeholder Engagement and Information Disclosure

This standard is relevant to this project. UNHCR will undertake stakeholder analysis during project preparation to identify and assess project stakeholders, including beneficiaries and other categories of stakeholders. It should include information on the risks and opportunities related to participating in the project from each of the identified stakeholders and ascertain their perception and inputs to the design and implementation process. At this stage, major stakeholders include forcibly displaced persons, individual and host communities, district local governments, lower local governments, civil society organizations, and other key relevant government Institutions etc. UNHCR will develop a SEP to guide the process of engagement with stakeholders during project preparation and implementation at the country and site levels. The SEP will be simple and proportionate to the risks of the project in line with ESS10.

ESS2 Labor and Working Conditions

The work consists of: (i) monitoring the well-being of the nests and the mating of the flies; (ii) ensuring that the temperature of the mating conditions is optimal, and changing the temperature and humidity accordingly; (iii) harvesting the larvae after they have hatched from the eggs and moving them into the feed budgets; (iv) feeding the larvae organic waste from the organic waste repository located outside of the insect tent/warehouse; (v) drying the mature larvae in the sun or in industrial microwave ovens; and (vi) packaging the dried larvae for onward sale and distribution. The larvae self-harvest by leaving the bucket when they are fully mature.

The workers are employed between 30 minutes and 2 hours per day. The workers recently have worn masks due to the presence of covid; otherwise, they do not need to wear masks. Labor Management Procedures (LMP) will be included in the ESMF.

ESS3 Resource Efficiency and Pollution Prevention and Management

Insect farming is considered a major technological advance in the circular economy perspective. There are considerable resource efficiencies that come with farming insects as feed inputs. Black soldier flies are the fastest developing insect farming system, and are produced for livestock feed for fish, pigs, and chickens, among others. The insects are feeding on household- and market-derived organic matter. Insect breeding produces frass, which is composed of spent feedstock, insect feces, and cuticles, This frass can in turn be used as organic fertilizer for small-scale gardening within the refugee camps.

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Insect farming produces fewer GHG emissions and uses less water than traditional livestock production. Insects produce high-quality animal protein with up to 20 times fewer GHG emissions than ruminant livestock, and up to half the emissions of poultry production per kilogram of edible protein.

ESS4 Community Health and Safety

Insect farming can reduce organic waste in urban settings by converting it into high quality protein. This is especially valuable in high-density urban areas, including refugee settlements, with poor sanitation and human waste management. The black soldier fly larvae do not carry any communicable disease which could be passed from insect farm worker to family members. Beneficiaries are mainly youth and female from refugees and host communities. The vulnerability of refugee population to SEA/SH risks are reported to be moderate. UNHCR would be providing training to beneficiaries. The project workers will be subject to adherence with code of conduct. SEA/SH prevention measures shall be provided in the ESMF included in the Project Operations Manual. Oversight of activities would be ensured by the presence of other project actors, beneficiaries, community members, or non-project actors.

ESS5 Land Acquisition, Restrictions on Land Use and Involuntary Resettlement

Land acquisition and/or donation is not expected. Black soldier fly larvae (BSFL) production facilities are usually constructed on a small footprint and are located close to sources of organic municipal waste, which is BSFL's primary feeding substrate. Waste collection sites already exist within refugee-hosting locations; these sites have been previously determined by UNHCR and or local authorities. The facility, or rearing shed, is usually constructed so close to the waste collection site that it does not displace any other potential use of the footprint. Even though the footprint of the production facility or demonstration sites is small, there may be constraints linked to availability of unencumbered sites as well as consensus on the site selection. Measures to guide site selection will be outlined in the ESMF.

ESS6 Biodiversity Conservation and Sustainable Management of Living Natural Resources

ESS6 is considered relevant, as the primary input of this project is a living natural resource. More specifically, black soldier flies, otherwise known as hermetia illuscens, are harvested as larvae, pupae, or pre-pupae, depending on the specific local needs as well as the selected production system. The initial flies used to start production are usually procured locally, by putting up some traps with food lures. The flies come and lay eggs, which are then harvested by local scientists and then propagated in the lab in order to remove extraneous eggs and purify the population. Black soldier flies are not endangered; they are prolific in their breeding. Although snakes, termites, plants, and elephants all predate on black soldier flies, or their nests, this predation is opportunistic. There is no known incident of predators entering insect farming facilities to predate.

ESS7 Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities



The presence of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities (IPs/SSAHUTLC) is not known yet as the project sites are yet to be finalized. Therefore, the relevance of this standard is yet to be determined. However, it is less likely to identify communities that meet the ESS7 criteria in the refugee-hosting locations.

ESS8 Cultural Heritage

There is no evidence that the black soldier flies contribute to cultural heritage in any of these participating countries. There is no cultural prohibition on farming insects and feeding them, and/or their frass, to other animals. There is no cultural prohibition on working in insect farms.

ESS9 Financial Intermediaries

No financial intermediaries are involved in this project.

C. Legal Operational Policies that Apply

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

III. World Bank Environmental and Social Due Diligence

A. Use of Common Approach	No
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Financing Partners

B. Proposed Measures, Actions and Timing (Borrower’s commitments)

Actions to be completed prior to Bank Board Approval:

A simple ESMF will be prepared, to be included in the draft Operations Manual of the project. The ESMF shall provide screening criteria for site selection, include LMP and SEA/SH prevention measures. The Operations Manual will be finalized by project effectiveness. An SEP will be prepared by Appraisal and disclosed.

Possible issues to be addressed in the Borrower Environmental and Social Commitment Plan (ESCP):

The ESCP will provide legal standing for an ESMF to be prepared, to be included in the Operations Manual of the project. The Operations Manual will need to be drafted by and finalised by project effectiveness. After Bank Board Approval, UNHCR will be required to name a staff member, or function, responsible for carrying out the ESMF. After

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Bank Board Approval, each of the four sites will need to have a site-specific ESMP with the details of that site, including the origination of the harvesting of the initial black soldier fly larvae; the location of the organic waste pile and the insect farming tent; the construction specifics for that tent; a list of protective gear to be procured and used; and a simple operating manual of occupational health and safety standards for the workers as well as the beneficiaries and other visitors on the site. ESMP would need to also include screening checklist, measures for SEA/SH prevention, Grievance management, stakeholder consultation documentation, land availability.

UNHCR will need to prepare a SEP to include provisions for a GRM. The ESMF will include provisions for capacity building of UNHCR in E&S risk management, including what capacity building is needed at the UNHCR HQ level. The four site-specific ESMPs will include provisions for capacity building in E&S risk management at the levels of the four UNHCR-managed camps.

C. Timing

Tentative target date for preparing the Appraisal Stage ESRS

01-Oct-2023

IV. CONTACT POINTS

World Bank

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V. FOR MORE INFORMATION CONTACT

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VI. APPROVAL

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