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INITIAL ENVIRONMENTAL EXAMINATION

PROJECT/ACTIVITY DATA

| | |
|--|---|
| Project/Activity Name: | USAID Bureau of Humanitarian Assistance (BHA) FY22 Request for Applications (RFA) for Resilience Food Security Activities in Mozambique |
| Geographic Location(s) (Country/Region): | Livelihood Zone 5 in the Zambezia Province of Mozambique |
| Amendment (Yes/No) | N |
| Implementation Start/End Date | Pre-Award, to be determined upon award |
| Solicitation/Contract/Award Number(s): | To be determined upon award |
| Implementing Partner(s): | To be determined upon award |
| Link to IEE: | |
| Link of Other, Related Analyses: | Mozambique I18/I19 , Mozambique Climate Risk Profile, 2017 Agricultural Portfolio Programmatic PERSUAP |

ORGANIZATIONAL/ADMINISTRATIVE DATA

| | |
|---|--|
| Implementing Operating Unit(s) (e.g. Mission or Bureau or Office) | Bureau of Humanitarian Assistance (BHA) |
| Funding Operating Unit(s) (e.g. Mission or Bureau or Office) | Same as above |
| Other Affected Operating Unit(s): | USAID/Mozambique |
| Lead BEO Bureau: | Humanitarian Assistance |
| Funding Account(s) (if available): | Title II |
| Original Funding Amount: | \$75M, Title II over a five-year period |
| Prepared by: | Environmental Compliance Support (ECOS) contract |
| Date Prepared: | December 2020 |

ENVIRONMENTAL COMPLIANCE REVIEW DATA

| | | |
|--|--|------------------------------------|
| Analysis Type: | <input checked="" type="checkbox"/> Initial Environmental Examination | <input type="checkbox"/> Amendment |
| Environmental Determination(s): | <input type="checkbox"/> Categorical Exclusion(s) <input type="checkbox"/> Negative <input checked="" type="checkbox"/> Positive <input checked="" type="checkbox"/> Deferral | |
| IEE Expiration Date (if applicable): | 2026, End of Awards | |
| Additional Analyses/Reporting Required: | Implementing Partners to develop Supplemental IEEs | |
| Climate Risk Rating for Risks Identified: | Low <u> X </u> Moderate <u> X </u> High <u> X </u> | |

THRESHOLD DECISION MEMO AND SUMMARY OF FINDINGS

PURPOSE AND SCOPE OF THE INITIAL ENVIRONMENTAL EXAMINATION

The purpose of this RFA-level Initial Environmental Examination (IEE) is to establish environmental compliance procedures and templates¹ for future awarded activities under the Food for Peace (BHA)² [Fiscal Year 2020 Request for Application \(RFA\)](#) for Mozambique Resilience Food Security Activities.

ACTIVITY SUMMARY

As specified in the RFA, these activities will contribute to the achievement of resilience and economic and social development plans while reducing food insecurity in the target countries. This RFA IEE also addresses COVID-19 22 CFR 216 response elements of BHA programming.

ENVIRONMENTAL DETERMINATIONS AND CLIMATE RISK RATINGS

The table below summarizes the Environmental Determinations and Climate Risk Ratings for activities analyzed in this RFA IEE.

| Interventions | 22 CFR 216 Environmental Determination | Climate Risk Rating |
|--|---|--|
| Commodity Fumigation | Positive Determination | Low, moderate, and high (see CRM table) |
| Increased use of disinfectants/germicides to minimize COVID-19 transmission. | Negative Determination | Low |
| Increased use of PPE and support for PPE production to minimize COVID-19 transmission. | Negative Determination | Low and Moderate |
| Other BHA Activities | Deferral for all other BHA Activities, to be assessed in the Supplemental IEE. Activities which previously qualified as a Categorical Exclusion, but now propose a risk to COVID-19, must be classified as a Negative Determination ³ until further notice. | Postponed Assessment, Rating to be assessed along with Supplemental IEE analysis |

¹ Word versions of the required templates can be found at a Google drive [here](#).

² Please note that per USAID's strategic reorganization, the offices of Bureau of Humanitarian Assistance (BHA) and Foreign Disaster Assistance (OFDA) have now merged into the Bureau for Humanitarian Assistance.

³ As new COVID-19 safety protocols are established globally and implemented (e.g., social distancing, virus and antibody testing, contact tracing, etc), this determination may be subject to change.

BEO SPECIFIED CONDITIONS OF APPROVAL

Condition 1: Applicant to submit Environmental Safeguards Plan.

Condition 2: Awardee to develop Supplemental IEE for Mission and Washington clearance⁴.

Condition 3: Awardee to develop and align Environmental Mitigation and Monitoring Plan (EMMP) and Climate Risk Management (CRM) with performance M&E systems.

Condition 4: Awardee to submit Environmental Status Reports (ESRs⁵) annually before the Pipeline Resource Estimate Proposal (PREP). Additional reporting is reflected in the Annual Results Report (ARR).

Condition 5: Awardee to develop an Environmental Assessment for any actions with potential for significant impact to ecological habitats, as determined by USAID.

Condition 6: Awardee to plan for a Pesticide Evaluation Report and Safe Use Action Plan (PERSUAP), which includes for pesticide procurement and/or use (e.g. agriculture, livestock, public health, construction), and/or commodity fumigation mitigation requirements.

Condition 7: Awardee to support the Mission in the development of any Best Practice Review (BPR) for environmental safeguarding.

Condition 8: Awardee to ensure compliance with partner country environmental regulations, including COVID-19 local and international standards.

Condition 9: Awardee to plan for management of packaging waste associated with commodity distribution and increased waste streams due to COVID-19.

Condition 10: Awardee to include awareness of pandemic health risks of activities (e.g., irrigation, roads) that disrupt wildlife habitat and are exacerbated by climate risks in the IEE.

IMPLEMENTATION

In accordance with 22 CFR 216 and Agency policy, the conditions and requirements of this document become mandatory upon approval. This includes the relevant limitations, conditions and requirements in this document as stated in Sections 3, 4, and 5 of the IEE and any BEO Specified Conditions of Approval. Any significant delinquencies and lack of compliance with 22 CFR 216 will result in a [Corrective Action Plan \(CAP\)](#)⁶.

⁴ The Supplemental IEE is subsidiary analysis to the RFA-IEE, and may also be referred to as the "Activity IEE".

⁵ The ESR is similar to the Environmental Mitigation and Monitoring Report (EMMR) used elsewhere in USAID. However, the ESR meets purposes of annual reporting and budget planning for environmental compliance.

⁶ The CAP is mandatory when a project or activity is found to be noncompliant—e.g., failure to comply with IEE conditions, use of pesticides without a PERSUAP, or failure to follow other ADS 204 procedures. The CAP is initiated by USAID and directed to the Process Owner (e.g., AOR/COR, Mission Director, Implementing Partner).

USAID APPROVAL OF INITIAL ENVIRONMENTAL EXAMINATION

PROJECT/ACTIVITY NAME: USAID Food for Peace (BHA) FY22 Request for Applications Initial Environmental Examination (RFA IEE) for Resilience Food Security Activities in Mozambique.

Bureau Tracking ID: BHA FY22 RFA IEE Mozambique

| | | |
|-------------|--|--------------------|
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INITIAL ENVIRONMENTAL EXAMINATION

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I.0 ACTIVITY DESCRIPTION

I.1 PURPOSE AND SCOPE OF THE IEE

The purpose of this document, in accordance with Title 22, Code of Federal Regulations, Part 216 ([22 CFR 216](#)), is to provide a preliminary review of the reasonably foreseeable effects on the environment of the USAID interventions described herein and recommend determinations and, as appropriate, conditions, for these activities. Upon approval, these determinations become affirmed, per 22 CFR 216 and BEO Specified Conditions become mandatory obligations of implementation. This RFA-level IEE (herein, "RFA IEE") also includes the RFA-level Climate Risk Management screening results in accordance with USAID policy (specifically, [ADS 201mal](#)).

This RFA IEE is a critical element of USAID's mandatory environmental review and compliance process meant to achieve environmentally sound activity design and implementation. This RFA IEE, cleared by BHA Washington, also establishes the requirements for post-award implementing partners (IPs) to develop their own Supplemental IEEs for Mission clearance and outlines other BEO-specified Conditions for implementation and reporting throughout the life of the awards.

This RFA IEE analyzes the environmental impacts and climate risks related to Commodity Fumigation, and COVID-19 related activities, given that environmental impacts of and climate risks to these activities are globally consistent. Other activity-types must be analyzed in the partner's Supplemental IEE to ensure the baseline environmental situation is taken into account.

USAID BHA has developed Guidance for [BHA Resilience Food Security Activity Partners Working in COVID-19 Affected Operating Environments](#). However, this guideline was not focused on the environmental compliance issues described within this IEE. These include the environmental impacts associated with increased disinfectant and PPE use, as well as risks associated with habitat encroachment and increased zoonotic disease outbreaks

I.2 ACTIVITY OVERVIEW

The Bureau of Humanitarian Assistance (BHA), in the U.S. Agency for International Development's (USAID) is the U.S. Government leader in international food assistance. Through BHA, USAID supports multi-year development (i.e., non-emergency) food security activities to improve and sustain the food and nutrition security of vulnerable populations. Development activities are mandated in the Food for Peace Act and are aligned with the [USAID 2016-2025 Food Assistance and Food Security Strategy](#)⁷. These activities work at the individual, household, community and systems level to address the underlying causes of chronic and acute food insecurity and strengthen transformative opportunities. USAID also provides emergency food assistance to address needs arising from natural disasters and complex emergencies, which are often characterized by insecurity and population displacement.

Overall, the Strategic Results Framework Strategic Objectives (SOs) and accompanying Intermediate Results (IRs) address key drivers of food insecurity, creating a map of the broad platform of capabilities that BHA and its partners bring to bear in supporting improved food security for vulnerable populations. Implementing partners are expected to use innovative approaches to promote environmental risk management to improve and sustain food and nutrition security of vulnerable populations, as articulated in both SO1 and SO2 of the [USAID 2016-2025 Food Assistance and Food Security Strategy](#).

⁷ Please note that BHA will be developing new strategies. See webpage here: <https://www.usaid.gov/humanitarian-assistance> for updates.

As specified in the RFA, BHA investments in the target BHA geographies⁸ will contribute to USAID's Strategy by strengthening community resilience, protecting and enhancing livelihoods, and improving food and nutritional security of vulnerable households.

I.3 ACTIVITY DESCRIPTION

As described in the RFA, BHA resilience food security activities in Mozambique are intended to improve and sustain the food and nutrition security of vulnerable populations. These activities work at the individual, household, community, and institutional levels to address the underlying causes of food insecurity and malnutrition and strengthen transformative opportunities. This includes a focus on improving food access and incomes through agriculture and other livelihoods initiatives; enhancing ecosystem services through natural resources management; combating under-nutrition, especially for children under 2 and pregnant and lactating women; and reducing and mitigating disaster impact through early warning and community capacity building and preparedness activities. Resilience Food Security Activities (RFSAs) are intended to strengthen resilience in populations vulnerable to acute, chronic hunger, malnutrition, and recurrent shocks, stresses, and crises, and to reduce extreme poverty.

This RFA IEE covers three main activity types: commodity fumigation, support for increased use of disinfectants/germicides and PPE in response to COVID-19, and support for small and medium enterprises (SMEs) responding to COVID-19. These activities are able to be analyzed at this RFA level given the environmental impacts and climate risks associated with them are applicable globally.

COMMODITY MANAGEMENT: FUMIGATION

BHA makes commodity donations to private voluntary organizations (PVOs) and international organizations (IOs), such as the UN's World Food Program (WFP). The large majority of commodities are purchased from US farmers and shipped abroad from US ports; however, activities can also distribute locally, regionally, and/or internationally procured (LRIP) food commodities as long as the use of LRIP resources clearly supports interventions that sustainably reduce vulnerability to food insecurity.

In order to prevent the spoilage and waste of food commodities procured by resilience food security funds, a range of protective measures are implemented in commodity storage warehouses. One common protective measure to prevent loss of commodity from insect, fungal or mammal infestations is fumigation utilizing phosphine gas and/or the application of contact pesticides to warehouse surfaces.

COVID-RELATED ACTIVITIES

This RFA IEE also covers two activities specifically related to COVID-19 response:

Support for increased use of disinfectants/germicides to minimize COVID-19 transmission. In order to prevent spread of the virus, it is expected that BHA partners will be relying on the increased use of germicides (e.g., disinfectants, sanitizers) to clean surfaces. BHA partners will also be using or supporting the use of increased Personal Protective Equipment (PPE) to minimize the spread of the virus.

Increased use of PPE and support for PPE production to minimize COVID-19 transmission. USAID approved the use of program funds to finance the local production of medical-grade and non-medical grade personal protective equipment (PPE), including for small and medium enterprises (SMEs).

⁸ Northeast (Nord-Est), Center (Centre), Southern (Sud), and Grand'Anse Departments in Mozambique.

PPE production includes (but is not limited to) masks, gowns, face shields, protective eyewear, boot covers, linens, and gloves.

OTHER BHA ACTIVITIES AND SECTORS

The exemplary range of sectors which may be supported within these resilience food security activities are listed below and further described in the [FY22 RFA for Resilience Food Security Activities in Mozambique](#)

TABLE I: EXAMPLE ACTIVITIES AND SECTORS

| |
|--|
| Commodity Fumigation |
| Other BHA Program Areas or Elements |
| Civil Society |
| HIV/AIDS |
| Maternal and child health |
| Family planning and reproductive health |
| Water supply and sanitation |
| Environment |
| Climate Change - adaptation |
| Climate Change - clean energy |
| Nutrition |
| Basic education |
| Social assistance |
| Agriculture |
| Private sector productivity |
| Financial sector |
| Protection, assistance and solutions |
| Disaster readiness |

2.0 BASELINE ENVIRONMENTAL INFORMATION

2.1 LOCATIONS AFFECTED AND ENVIRONMENTAL CONTEXT (ENVIRONMENT, PHYSICAL, CLIMATE, SOCIAL)

Implementing partners are expected to design their programs to address interventions' area-specific biophysical, socioeconomic, and cultural conditions, as well as the political and institutional context in which the resilience food security activities will operate. Applicants are expected to draw from existing USAID or other country-level environmental analyses, including USAID climate change vulnerability and adaptation analyses (which can be found by searching Mozambique in the [Climatelinks](#) resource library), [Foreign Assistance Act \(FAA\) 118/119 Biodiversity and Tropical Forestry Assessments](#), and [Country Specific Information](#) reports.

The following sub-sections provide a brief overview of the baseline climate and environmental information for Mozambique, pertinent to the sub-national areas in the BHA target geography in the Livelihood Zone 5 (MZ05), in Zambezia. It is crucial to understand the baseline situation (the existing environmental situation or condition in the absence of USAID activities) in order to understand and measure the impacts, or change from the baseline, caused by the activity.

This section is organized as follows:

- I. Socio-Economic Overview
- II. Key Geographic Features
 - A. Geography
 - B. Soil
 - C. Water Resources
- III. Key Ecological Habitats
 - A. Protected Areas
 - B. Wetlands
- IV. Threats
 - A. Environmental Threats Overview
 - B. Invasive Species
 - C. Climate Risks
- V. PERSUAP and Pesticides
- VI. Other Key Stakeholders

SOCIO-ECONOMIC OVERVIEW

Mozambique's environmental crisis is compounded by its socio-economic conditions. Nearly half of the population, 46%, lives in poverty.⁹ Mozambique's Human Development Index is quite low, ranking 180 out

⁹ UN, *Unpacking the Potential Socioeconomic Impact of the Coronavirus Pandemic in Mozambique*, 2020, <https://www.undp.org/content/dam/rba/docs/COVID-19-CO-Response/Socio-Economic-Impact-COVID-19-Mozambique-UN-Mozambique-March-2020.pdf>

of 189 countries and territories.¹⁰ According to a 2014-2015 UNDP household survey, many people continue to live without access to basic services, such as potable water, basic sanitation, and electricity.¹¹ Women and children continue to be disproportionately affected by disease and sickness, which is worsening as a result of the COVID-19 pandemic.

The COVID-19 pandemic has impacted Mozambique at a particularly fragile time in the country's history. Mozambique was attempting to economically recover from a series of destabilizing events in recent years: the hidden debt crisis and the devastating effects of cyclones Idai and Kenneth.¹² In 2016, Mozambique's track record for high growth was disrupted when large, previously unreported external borrowing was exposed. The revelation of undisclosed debt dented global confidence in the country, increased debt levels, and more than halved the average rate of growth.¹³ In 2019, Cyclones Idai and Kenneth caused massive damage to infrastructure, livelihoods, and the environment, further lowering growth and wellbeing of the population.

Mozambique's once robust natural resources have been depleted over time due to urban and rural development. The lack of planning and environmental management, combined with the growing population has led to increased deforestation, overexploitation of land used for agriculture, and poor waste management.¹⁴

KEY GEOGRAPHIC FEATURES

GEOGRAPHY

Mozambique is divided into two topographical regions by the Zambezi River, which forms the southern border of the Zambezia province, where BHA target geography MZ05 is located. To the north of the Zambezi River, the narrow coastal strip gives way to inland hills and low plateaus. To the south of the Zambezi River, the lowlands are broader with the Mashonaland plateau and Lebombo Mountains located in the south.

BHA target geography, MZ05 is located in the Zambezia province in Livelihood Zone 5. Livelihood zones, as defined in the Famine Early Warning Systems Network (FEWS), are areas within which people share broadly the same pattern of livelihood, including obtaining food and income. Strengths of FEWS livelihood zone mapping are the provision of geographic orientation of livelihood systems to inform food security analysis and assistance targeting, as well as identifying geographically relevant food security monitoring

¹⁰ UNDP, *Human Development Report 2019*, 2019 http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/MOZ.pdf

¹¹ UN, *Unpacking the Potential Socioeconomic Impact of the Coronavirus Pandemic in Mozambique*, 2020, <https://www.undp.org/content/dam/rba/docs/COVID-19-CO-Response/Socio-Economic-Impact-COVID-19-Mozambique-UN-Mozambique-March-2020.pdf>

¹² World Bank, "The World Bank in Mozambique," 2020, <https://www.worldbank.org/en/country/mozambique/overview>

¹³ World Bank, "The World Bank in Mozambique," 2020, <https://www.worldbank.org/en/country/mozambique/overview>

¹⁴ USAID, *Mozambique Biodiversity and Tropical Forests Analysis*, 2019 <http://www.brucebyersconsulting.com/wp-content/uploads/2019/06/Mozambique-Tropical-Forests-and-Biodiversity-Analysis-Report-2019.pdf>

indicators.¹⁵ MZ05 in the Zambezia province is defined as inland northern highland with mixed cropping.¹⁶ The Zambezia province more broadly is dominated by tropical savannah, and some parts of MZ05 are considered humid subtropical.

SOIL

Soils in Mozambique are generally nutrient-poor, with low to medium fertility, except for fertile soils of river floodplains, which make up only about 6 percent of the soils of the country. Shifting cultivation is a technique for restoring soil fertility through forest fallowing. The use of commercial fertilizer, which could compensate to some degree, is still generally low among small farmers.¹⁷

MZ05 is the most productive zone in the northern region of the Zambezia province. The majority of households earn a substantial portion of income from selling food and cash crops. In Zone 5, the soil texture is generally ferrous, with sandy to clay characteristics, making it suitable for agriculture.¹⁸ This zone is moderately populated as a result of the productive agriculture industry. Zone 5 boasts high maize yields, surplus production, and suitable agro-ecological conditions that result in a heavy reliance on rainfed agriculture.¹⁹ The vegetation is mainly dense miombo forest with savannah grassland and bushes.

WATER RESOURCES

The Zambezia Province is primarily drained by the Zambezi River, which is the longest and most productive in the country. The Zambezi river has a highly seasonal, torrential flow regime, with high and low flows corresponding to the distinct wet and dry seasons. However, heavy winter rains in Central and Northern Mozambique have led to major flooding events south of the Zambezi. In 2015, heavy flooding affected 168,000 Mozambicans causing widespread displacement.²⁰ Flooding was worst in Zambezia Province, where there was extensive damage to homes, crops, and transport routes, and 68,000 residents were displaced.²¹

Groundwater in Mozambique is in abundance and lies in the alluvial formations of the country's many rivers. Yields in the Zambezi basins in the Zambezia province can be up to 70,000 m³ /day. Surface water resources are estimated at 97,300 million m³/year, and total groundwater resources at 14,000 million m³/year.²² While Mozambique is well-endowed with water resources, many major rivers originate outside the country, making it highly vulnerable to upstream water management concerns. Rivers in the south of

¹⁵ Famine Early Warning Systems Network (FEWS), "Southern Africa: Mozambique Livelihood Zoning Report," 2014 <https://fews.net/southern-africa/mozambique/livelihood-zone-map/may-2014>

¹⁶ Famine Early Warning Systems Network (FEWS), "Southern Africa: Mozambique Livelihood Zoning Report," 2014 <https://fews.net/southern-africa/mozambique/livelihood-zone-map/may-2014>

¹⁷ USAID, *Mozambique Biodiversity and Tropical Forests Analysis*, 2019 <http://www.brucebyersconsulting.com/wp-content/uploads/2019/06/Mozambique-Tropical-Forests-and-Biodiversity-Analysis-Report-2019.pdf>

¹⁸ Famine Early Warning Systems Network (FEWS), "Southern Africa: Mozambique Livelihood Zoning Report," 2014 <https://fews.net/southern-africa/mozambique/livelihood-zone-map/may-2014>

¹⁹ Famine Early Warning Systems Network (FEWS), "Southern Africa: Mozambique Livelihood Zoning Report," 2014 <https://fews.net/southern-africa/mozambique/livelihood-zone-map/may-2014>

²⁰ Elstrott, Jennifer Lynn, "Water Scarcity in Rural Mozambique," *Water4 Foundation*, 2016, pg. 10.

²¹ Elstrott, Jennifer Lynn, "Water Scarcity in Rural Mozambique," *Water4 Foundation*, 2016, pg. 10.

²² FAO, "Country Profile - Mozambique," 2016 <http://www.fao.org/3/i9805en/i9805EN.pdf>

the country are heavily dependent on water resources from upstream countries. The increasing demand for water upstream in South Africa, Swaziland, and Zimbabwe pose challenges for the sustainability of future water resources in the country. Water resource management of the Zambezi River in particular is difficult because of competing water demands, human and financial resources. Governance remains a key constraint to proper management of the Zambezi River and sustainable water resource management is impeded by poor data collection, management, and dissemination systems as well as inadequate training and weak stakeholder participation.²³

Though abundant in water resources, the BHA-specified province, Zambezia faces imminent WASH and water quality concerns. There is very little wastewater treatment infrastructure in the country, and around 70% of the population uses pit latrines.²⁴ In the BHA-specified province, Zambezia, only 30.6% have access to clean water and 13% to safe sanitation services.²⁵

KEY ECOLOGICAL HABITATS

Livelihood Zone 5 (MZ05) in the Zambezia region contains ecosystems that serve as important sources of biodiversity. See Figure I which shows the targeted BHA locations and their proximity to protected areas.

Ecosystem services in Mozambique provide economic and social benefits including food, freshwater, fuel wood, nutrition, and genetic resources, as well as various supporting (soil formation, nutrient cycling, primary production), regulating (climate regulation, disease regulation, water regulation, purification, and pollination), and cultural (spiritual, religious, recreation, eco-tourism, aesthetic, inspirational, and cultural heritage) services. Healthy and well-managed ecosystems are critical to protecting and enhancing the resilience of nearby communities. However, habitat conversion, unsustainable utilization, invasive alien species, climate change, and pollution, are resulting in the fragmentation and degradation of natural habitats, disturbances of ecosystem functions, and loss of biodiversity and ecosystem services.²⁶

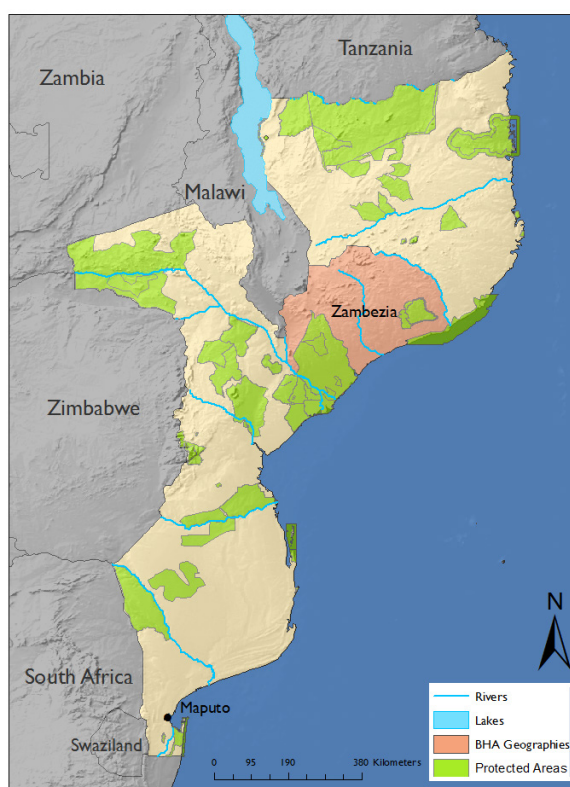


FIGURE I. TARGETED BHA LOCATIONS AND PROTECTED AREAS

²³ Kirchhoff, Christine J. and Jonathan W. Bulkley, *Sustainable Water Management in the Zambezi River Basin*, 2008 <https://quod.lib.umich.edu/j/jii/4750978.0015.208/--sustainable-water-management-in-the-zambezi-river-basin?rgn=main;view=fulltext;q1=Environment+and+Ecology>

²⁴ FAO, "Country Profile - Mozambique," 2016 <http://www.fao.org/3/i9805en/i9805EN.pdf>

²⁵ UNICEF, "Wash Situation in Mozambique," 2016 <https://www.unicef.org/mozambique/en/water-sanitation-and-hygiene-wash>

²⁶ Convention on Biological Diversity (CBD), *National Strategy and Action Plan of Biological Diversity of Mozambique (2015 - 2035)*, 2015, <https://www.cbd.int/doc/world/mz/mz-nbsap-v3-en.pdf>

Mozambique has abundant wetlands and protected areas, as well as two sites of cultural significance. The following two sections describe the largest or most important wetlands and protected areas in the BHA-specified geographic zone, the Zambezia Province, Livelihood Zone 5. However, in their Supplemental IEEs implementing partners must provide a more specific analysis of the wetlands and protected areas closest to or affected by their planned activities.

PROTECTED AREAS

Mozambique's most recent National Forest Inventory estimates that 267,000 ha of forests were lost each year from 2003 to 2013, but that since 2014, the deforestation rate has fallen to half of that average of the previous decade. In the Zambezia Province, threats to the natural forest cover are exacerbated by population growth, rural poverty, and heavy reliance on agriculture.²⁷ Between 2001 and 2016, the province lost 5% of forest cover (approximately 5,440 km²) to small-scale slash and burn agriculture and charcoal production. With limited access to alternative sources of income, Zambezia's largely rural population is caught in a cycle of unsustainable forest use and land practices.²⁸ Despite the government's zero tolerance for illegal logging, protected forests continue to be logged and a significant amount of the country's timber exports are illegal.²⁹ Since effective law enforcement and high-level coordination are at the crux of illegal logging, the Zambezia Integrated Landscapes Management Program (ZILMP) is working to address fragmentation and lack of dialogue in the government by coordinating decision makers from across different departments to present a united front that can stamp out illegal activity.

Some of the major protected areas can be found in or around the BHA priority geographic zone. Mt. Namuli is the highest peak in the Zambezia Province and its surrounding forests are an important biodiversity hotspot with a high rate of threatened flora and fauna. Mt. Namuli is home to the threatened Afromontane forest, which harbors many previously unknown, endemic species, such as the Namuli apalis bird and Vincent's bush squirrel.³⁰ Other rare species located in Mt. Namuli include the Thyolo alethe (*Alethe choloensis*) and the dapple-throat (*Modulatrix orostruthus*).

Another nearby protected area, located in the Zambezia Province is the Gilé National Reserve. The reserve is dominated by dense woodlands and donga grasslands that flood during the rainy season.³¹ There is little known information about the wildlife in the National Reserve, though poaching continues to be an ongoing problem.

²⁷ World Bank, *Zambezia Landscape Program*, 2017, <http://documents1.worldbank.org/curated/en/255741537429237774/pdf/130035-WP-PUBLIC-Zambezia-ERP-Brochure-sml.pdf>

²⁸ World Bank, *Zambezia Landscape Program*, 2017, <http://documents1.worldbank.org/curated/en/255741537429237774/pdf/130035-WP-PUBLIC-Zambezia-ERP-Brochure-sml.pdf>

²⁹ World Bank, *Zambezia Landscape Program*, 2017, <http://documents1.worldbank.org/curated/en/255741537429237774/pdf/130035-WP-PUBLIC-Zambezia-ERP-Brochure-sml.pdf>

³⁰ World Bank, *Zambezia Landscape Program*, 2017, <http://documents1.worldbank.org/curated/en/255741537429237774/pdf/130035-WP-PUBLIC-Zambezia-ERP-Brochure-sml.pdf>

³¹ Philip Briggs, "Overview - Gilé NR," 2020 <https://www.safaribookings.com/gile>

According to the Journey to Self-Reliance FY 2019 Country Roadmap for Mozambique, Mozambique received a score of .9 out of 1.0 for Biodiversity & Habitat Protections. Yale University/Columbia University Center for International Earth Science Information Network (CIESIN) provided the high score as a combination of the extent of marine protected areas, terrestrial biome protection, representativeness of protected areas, and the extent that the protected areas cover the range of habitats and critical species. While Mozambique has received an advanced score, the .9 is reflective of the country's large percentage of terrestrial area officially designated as conservation areas. The score is not necessarily a useful or accurate reflection of the effectiveness of biodiversity conservation policies and their implementation.

WETLANDS

Mozambique has freshwater and wetland ecosystems of recognized national, regional, and international importance, such as the Zambezi Delta. The main types of freshwater ecosystems in Mozambique are rivers, the river's riparian zones, and natural lakes. River deltas, such as the Zambezi Delta, are estuarine wetlands dominated by mangroves, which can form wooded swamp forests. The North bank is located in Zambezia Province and is characterized by an extensive area developed for agriculture. The Zambezi Delta was Mozambique's first Ramsar site, declared in 2003. The delta has the highest concentration of conservation areas in Mozambique: the Marrromeu national reserve, four extensive safari hunting areas and two Forestry reserves, as well as numerous forestry concessions.³² The Delta has the largest pristine mangrove stands in eastern Africa and its vast wetlands are home to one of the densest populations of buffalo on the continent, wide ranging species such as African elephant and the endangered wild dog and unique population of "Selous" zebra.

The rich biodiversity and mangroves in the Zambezi delta provide a wealth of ecosystem services which are vital to food security and socio-economic development in Mozambique. It also provides hydrological functions including coastal protection, flood control and carbon sequestration.³³ The Delta's mangroves extend through the BHA-specified province, Zambezia, and are under threat of drying out due to the regulation of Zambezi river flow since 1978 by the Caborra Bassa Dam.³⁴ Despite the large concentration of protected areas in the region, there are planned developments in the Delta that include four new dams, dredging for coal barging, and irrigation schemes, which have explicit relevance to BHA planned activities. Since 2007, WWF's field projects implemented CBNRM initiatives in the delta as well as assisted the government to develop a holistic, multi stakeholder Ramsar site management plan.

Coral reefs, seagrass meadows, sandy and rocky shores, and estuaries are found along Mozambique's 2,750 kilometer coastline. Coral reefs cover an area of about 1,860 km², and are mainly fringing reefs found in northern Mozambique as far south as the Primeiras and Segundas islands in the Zambezia province. Mangroves cover about 305,400 hectares with major mangrove areas located along the swamp coast in central Mozambique, centered on the Zambezi River Delta.

³² WWF, "About WWF Mozambique," 2020, https://wwf.panda.org/wwf_offices/mozambique/

³³ Ramsar, Mozambique Zambezi Delta, 2004 https://rsis.ramsar.org/RISapp/files/RISrep/MZ1391RIS_1510_en.pdf

³⁴ WWF, "About WWF Mozambique," 2020, https://wwf.panda.org/wwf_offices/mozambique/

THREATS

ENVIRONMENTAL THREATS OVERVIEW

According to the [2019 USAID/Mozambique Biodiversity and Tropical Forests Analysis](#), the principal threat to Mozambique's biodiversity stems from conversion, loss, degradation, and fragmentation of natural ecosystems and forests. The other pressing threats are overexploitation of high-value species, introduction of invasive non-native species, pollution, and climate change. Climate change is a potential threat of unknown magnitude that may accelerate other direct threats, especially habitat loss and degradation and the threat from invasive species.

By protecting important ecological processes and providing refuge for flora and fauna, Mozambique's protected area system is important for counteracting the above threats. However, many of the protected areas in Mozambique are increasingly degraded and are not properly managed, despite the large number of protected zones.³⁵ Dense human populations in or near protected areas have led to increased human-wildlife conflicts, as well as destructive practices such as uncontrolled burning and agricultural expansion.³⁶ Lack of awareness within the general public, policy and decision makers within Mozambique has impacted on the use and conservation of wetlands within the country.

INVASIVE SPECIES

Non-native species are rapidly expanding throughout the Zambezia province's farmlands, rangelands, and aquatic ecosystems. Non-native, invasive species can reduce biodiversity and cause reductions in crop, fish, and forage yields. Invasive species displace indigenous species and disrupt natural ecosystems. While the impact of invasive species in Zambezia has not been well-documented, it is clear that they pose a threat to food security, livelihoods, and human and animal health. Invasive species in Mozambique pose an increased threat as climate change facilitates the spread and establishment of many alien species, as well as reduces the resilience of natural habitats and agricultural systems.³⁷

In recent years, several invasive species have been introduced in the BHA-specified region MZ05, many deliberately for commercial benefit. Examples of invasive species introduced for economic gain include Eucalyptus, Pinus, Leucaena leucocephala, and Azadirachta indica, to name a few.³⁷³⁸ Other invasive species in Mozambique have caused a range of ecosystem imbalances, resulting in the extinction of native species and reduction in the genetic diversity. Among these plant species are the water hyacinth (*Eichhornia crassipes*), water lettuce (*Pistia stratiotes*), salvinia (*Salvinia molesta*), red water fern (*Azolla filiculoides*), parrot feather (*Myriophyllum aquaticum*), and lantana (*Lantana camara*).

³⁵ USAID, *Mozambique Biodiversity and Tropical Forests Analysis*, 2019 <http://www.brucebyersconsulting.com/wp-content/uploads/2019/06/Mozambique-Tropical-Forests-and-Biodiversity-Analysis-Report-2019.pdf>

³⁶ USAID, *Mozambique Biodiversity and Tropical Forests Analysis*, 2019 <http://www.brucebyersconsulting.com/wp-content/uploads/2019/06/Mozambique-Tropical-Forests-and-Biodiversity-Analysis-Report-2019.pdf>

³⁷ IUCN, "Invasive alien species and climate change," <https://www.iucn.org/resources/issues-briefs/invasive-alien-species-and-climate-change>

³⁸ Convention on Biological Diversity (CBD), *National Strategy and Action Plan of Biological Diversity of Mozambique (2015 - 2035)*, 2015, <https://www.cbd.int/doc/world/mz/mz-nbsap-v3-en.pdf>

BHA projects in Mozambique are specifically prohibited from using USAID support for the promotion of any invasive species. The fifty-two plus invasive plants occurring in Mozambique must be properly managed through improving knowledge of these species and control protocols to eradicate them.³⁹

CLIMATE RISKS

Mozambique is highly vulnerable to climate change, primarily as a function of its location and geography. The projected changes to the climate magnify and exacerbate other threats and concerns to the environment in Mozambique. Mozambique consists mostly of coastal lowlands with uplands in the country's center, and plateaus to the northwest. Several regional watersheds, such as the Limpopo and Zambezi, flow through Mozambique to the Indian Ocean, causing annual floods in Mozambique's lowlands during the rainy season. Annual flooding of the lowlands during the rainy season are greatly magnified by regional flooding as a result of tropical storms and storm surge. Large swaths of the country are susceptible to tropical cyclones, droughts, and river/coastal storm surge.⁴⁰ In 2015, El Niño conditions caused one of the worst droughts in 35 years, reducing water availability by 15%. Food insecurity caused by the drought worsened in 2017 with Cyclone Dineo, which damaged crops and destroyed infrastructure. Climate variation has impacted cyclone frequency and severity in the region, which is also seen through the destruction of Cyclone Idai. Cyclone Idai had a devastating direct impact in Mozambique through loss of lives and livelihoods, as well as dire indirect impacts, including increased waterborne and other infectious diseases. Climate events in recent years are only projected to worsen in Mozambique.

The BHA zone of influence MZ05 in Zambezia has a climate-modified by altitude. The average rainfall in this area is 1,000-1,500mm, primarily from October through February.⁴¹ The Zambezia province is the wettest in the country, and rainfall can reach 2,000 mm in the northern regions of the province.⁴² In recent years, both rainfall and the geographic position downstream from multiple rivers has led to increased flooding in the province. Climate projections for 2050 cite a likelihood of increased frequency and intense flooding as a result of erratic, heavy rainfall in the province.

Climate projections also anticipate higher risk of drought in MZ05 as a result of an estimated 3-7% decrease in precipitation.⁴³ At present, drought only occurs about once every ten years in MZ05. However, the impact of a drought can be substantially detrimental to regional agricultural production, given the heavy reliance on annual precipitation. MZ05 households are heavily reliant on food production for both sustenance and income.

In Zambezia more broadly, climate hazards that currently pose the greatest risk to food security in Zambezia include cyclones, heavy rainfall, and resultant flooding, which can destroy crops and interannual rainfall variability. Rainfall variability is particularly threatening to rain-fed agriculture that relies on a

³⁹ USAID, *Mozambique Biodiversity and Tropical Forests Analysis*, 2019 <http://www.brucebyersconsulting.com/wp-content/uploads/2019/06/Mozambique-Tropical-Forests-and-Biodiversity-Analysis-Report-2019.pdf>

⁴⁰ USAID, *Mozambique Biodiversity and Tropical Forests Analysis*, 2019 <http://www.brucebyersconsulting.com/wp-content/uploads/2019/06/Mozambique-Tropical-Forests-and-Biodiversity-Analysis-Report-2019.pdf>

⁴¹ Famine Early Warning Systems Network (FEWS), "Southern Africa: Mozambique Livelihood Zoning Report," 2014 <https://fews.net/southern-africa/mozambique/livelihood-zone-map/may-2014>

⁴² USAID, Draft Climate Risk Profile, 2020

⁴³ USAID, Draft Climate Risk Profile, 2020

predictable rainy season. The lack of the ability of institutions and individuals to be prepared for and respond to climate shocks and stressors likely contribute the most to the lack of climate resilience in Zambezia. Increasing temperatures and erratic rainfall are projected to exacerbate drought in northern and central regions, with a shorter rainy season. Rising temperatures are predicted to create shifts in growing seasons and decrease the duration of the rainy season. Shorter, interrupted, or unpredictable rainy seasons are also likely to decrease crop yields, particularly for drought-sensitive crops like maize and soy.⁴⁴ Climate risks will impact all sectors, but will have an especially profound impact on agriculture, food security, nutrition, and child health.

Additional information on projected changes in climate and climate risks to food security in Mozambique is compiled in the USAID Climate Risks in BHA Geographies – Mozambique, which will be posted on the [USAID Country Website](#) as well as on Climatelinks.org. All relevant threats should be considered by implementing partners in their Supplemental IEEs and Climate Risk Management screenings.

PESTS & PERSUAPs

Mozambique has various challenges related to pest management including crop damage from diseases or insects, lack of availability of information and technologies for agriculture, the misuse of pesticides, and a shortage of trained professionals in fields related to integrated pest management. Due to widespread poverty, the use of fertilizers and other chemical products is lower than other countries as heavily reliant on agriculture. However, the increased use of pesticides in agriculture could present a future threat of human health impacts and pollution, especially to aquatic ecosystems.

Mozambique has a [2017 Agricultural Portfolio Programmatic PERSUAP](#), that covers pesticide support for the below-listed value chains/use types, geographies, and actions for activities under Development Objective (DO) 2: Resilient, Broad-based Economic Growth Accelerated of the Mozambique Country Development Cooperation Strategy (CDCS), particularly for Intermediate Result (IR) 2.1 Increased Agricultural Sector Growth and Food Security in Focus Provinces with Emphasis on Women. The PERSUAP expires January 2022 and covers the value chains for sesame, groundnuts, beans, soybeans, cowpeas, pigeon peas, cashews, and bananas.⁴⁵

Mozambique is also covered in part by the [Farmer to Farmer \(F2F\) PERSUAP](#), which covers assistance for the procurement or use of pesticides. The F2F Program includes 26 core countries, and IPs in-country identify the main areas of program focus. In Mozambique, the F2F program concerns legumes (soybeans, common beans, groundnuts) and horticulture.⁴⁶ According to the F2F PERSUAP, pesticides in Mozambique were selected mainly because of availability, low cost, and because of perceived low toxicity, such as cypermethrin, lambda cyhalothrin.⁴⁷ Mozambique's challenges defined in the F2F PERSUAP remain

⁴⁴ ClimateLinks, *Climate Risk Profile Mozambique*, 2018 https://www.climatelinks.org/sites/default/files/asset/document/2018_USAID-ATLAS-Project_Climate-Risk-Profile-Mozambique.pdf

⁴⁵ USAID, *Mozambique 2017 Agricultural Programmatic PERSUAP*, 2017 <https://docs.google.com/viewer?a=v&pid=sites&srcid=dXNhaWQuZ292fGFmcmVudnByb2N8Z3g6MjFhNzlkZmE1Mjk5YTA0OA>

⁴⁶ USAID, *Farmer-To-Farmer Programmatic PERSUAP*, 2013 https://pdf.usaid.gov/pdf_docs/PA00K2BJ.pdf

⁴⁷ USAID, *Farmer-To-Farmer Programmatic PERSUAP*, 2013 https://pdf.usaid.gov/pdf_docs/PA00K2BJ.pdf

the same from the first iteration of the F2F PERSUAP. Primary concerns facing pesticide management include a lack of information on proper handling and disposal of empty containers and unused pesticides.⁴⁸ Farmers and input suppliers are also largely unaware of safeguards to take against poisoning of applicators and the environment, including pollinators; proper dosage of pesticide; first-aid treatment, including treatment when the first mild symptoms appear and when later severe symptoms occur; and proper transport and storage of pesticides.⁴⁹

Increased temperatures and changing rainfall patterns are likely to change the timing and distribution of agricultural pests (including locusts swarms), contributing to plant stress and reducing yields in Zambezia's most productive region, MZ05. Mozambique is on alert for the locust swarm that has plagued East Africa in 2020. The highest risk areas of locust outbreak in Mozambique are the districts of Buzi, Gorongosa, and Caia in the central and northern provinces.⁵⁰ The FAO warns that the formation of new swarms will coincide with the start of the harvest season, causing an unprecedented threat to food security and livelihoods in several countries across East Africa, which may extend south to Malawi and Mozambique. USAID has conducted an East Africa Regional Programmatic Environmental Assessment (EA) in response to the locust outbreak in order to ensure appropriate pesticide environmental and social analysis, authorizations and guidance are in place to enable efficient and responsible future response.

Erratic rainfall and temperature fluctuations could contribute to the spread of existing and new agricultural pests, such as the fall armyworm, posing an unprecedented threat to maize and sorghum.⁵¹ This challenge will require a more aggressive adoption of integrated pest management practices, the introduction of new inputs to counter virulent challenges, and overall changes to crop and livestock management. While there is yet to be a comprehensive study detailing the intricacies of crop-pest-climate relationships in Mozambique, available evidence suggests that climate change could change migration patterns of vector species, lengthen their breeding season or expand their altitudinal range, create potential new ecological niches that would allow for the spread of pests and diseases to new geographical areas, and changing application and use rates for pesticides.⁵²

OTHER KEY STAKEHOLDERS

There are many key stakeholders currently working in Mozambique, and specifically in the Zambezia province. Stakeholders include: Global Environment Facility (GEF) Agencies, United Nations Development Programme (UNDP), The World Bank, United Nations Industrial Development Organization (UNIDO), GEF Secretariat, United Nations Environment Programme (UNEP), the International Fund for Agricultural Development (IFAD), World Wildlife Fund - Mozambique (WWF), Centro Terra Viva, IUCN, Agronomic

⁴⁸ USAID, *Farmer-To-Farmer Programmatic PERSUAP*, 2013 https://pdf.usaid.gov/pdf_docs/PA00K2BJ.pdf

⁴⁹ USAID, *Farmer-To-Farmer Programmatic PERSUAP*, 2013 https://pdf.usaid.gov/pdf_docs/PA00K2BJ.pdf

⁵⁰ Club of Mozambique, "Mozambique: joint Response Needed to Locusts Threatening Southern Africa," 2020, <https://clubofmozambique.com/news/mozambique-joint-response-needed-to-locusts-threatening-southern-africa-168808/>

⁵¹ ClimateLinks, *Climate Risk Profile Mozambique*, 2018 https://www.climatelinks.org/sites/default/files/asset/document/2018_USAID-ATLAS-Project_Climate-Risk-Profile-Mozambique.pdf

⁵² USAID. *Climate Variability and Change in Mozambique: Summary of Findings*. December 2015.

Research Institute of Mozambique (IIAM), Southern African Development Community (SADC), the African Development Bank (AfDB), and the Food and Agriculture Organization of the UN (FAO).

The GEF currently has 70 projects in Mozambique with GEF grant funding of over \$528 million and an additional co-financing amount of \$3 billion.

There are 26 ongoing World Bank projects in the BHA zone of influence, the Zambezia Province, a commitment that totals \$2 billion. Projects specific to biodiversity and forest cover protection include:

| Project | Budget | Dates | Location | Objective |
|--|--|---|----------|---|
| Mozambique Forest Investment Project | \$47 million | March 06, 2017- June 30, 2022 | Zambezia | Improve the enabling environment for, and practices of, forest and land management in targeted landscapes in Mozambique. |
| Mozambique Integrated Landscape Management Portfolio (ILM) | \$500 million | 2018 - Present | Various | ILM Portfolio manages WB projects in order to recognize the inextricable links between forests, natural resources (such as healthy soils and clean water) and the value chains that depend on them (such as agriculture, timber and tourism). |
| Zambezia Emissions Reductions Payment | \$50 million | February 1, 2019 - December 31, 2025 | Zambezia | Payment services in Zambezia Province for successful mitigation of climate change by reducing ongoing high loss of forest cover and GHG emissions. |
| Mozambique Conservation Areas for Biodiversity and Development Project (Moz Bio Phase 1 and Phase 2) | Phase 1: \$40 million Phase 2: \$45 million | November 18, 2014 - November 29, 2019 September 20, 2018 - November 30, 2023 | Various | Support Mozambique's network of national parks and reserves, while enhancing livelihoods in and around these areas. MozBio is strengthening management capacity and promoting nature-based tourism, to create business opportunities and livelihood activities that focus on conservation and biodiversity. |

| | | | | |
|--|------------------|--|---------------------------|--|
| Mozambique Agriculture and Natural Resources Landscape Management (SUSTENTA) | \$40 million | June 30, 2016 – October 31, 2023 | Zambezia and others | Integrate management of agriculture and natural resources, stimulate the economy and improve the quality of life of rural families. |
| Mozambique Land Administration Project - Terra Segura | \$100 million | December 4, 2018 - March 29, 2024 | Zambezia | Strengthen land tenure security in selected districts and improve the efficiency and accessibility of land administration services. |

According to the Mozambique Tropical Forest and Biodiversity (FAA 118/119) Assessment, key international institutions in Mozambique include KFW, IUCN, WWF, AFD, and ANAC. Key national environmental government agencies include: the Ministry for the Coordination of Environmental Affairs, Ministry of Agriculture, the National Fund of Environment (FUNAB), managed by the Environment Minister for Coordination of Environmental Action. The government of Mozambique has also built momentum in addressing climate change through the adoption of the 2013-2025 National Climate Change and Mitigation Strategy.

In the Zambezi Delta, WWF and Delta Alliance have organized a joint mission to the Lower Zambezi Basin and Delta, in order to contribute to the sustainable development and delta management. The delegation of this mission consisted of Companies (DHV and Royal Haskoning), NGOs (WWF), Knowledge Institutes (Wageningen University, Deltares, Alterra, and Eduardo Mondlane University) and Government Institutes (ARA Zambeze). Several organizations in Mozambique (Hidroelectrica de Cahora Bassa, ARA Zambeze, Provincial Authorities of Tete and Sofala Province, Research Institutes and National Government Institutes) were visited and some took part in the entire mission in order to understand their main challenges at present in the basin.⁵³

Many national environmental NGOs operate in Mozambique. Notable organizations working in BHA-specified regions include CARE Mozambique and World Vision Mozambique.

⁵³ WWF, *High Potential in the Lower Zambezi*, 2011, <https://edepot.wur.nl/330188>

2.2 APPLICABLE AND APPROPRIATE PARTNER COUNTRY AND OTHER INTERNATIONAL STANDARDS (E.G. WHO), ENVIRONMENTAL AND SOCIAL LAWS, POLICIES, AND REGULATIONS

SUB-SAHARAN AFRICA EIA PROCEDURES

According to the Legal and Regulatory Framework Study of the World Bank, environmental impact assessment (EIA), is a “process and a tool to identify the likely consequences a particular project would have on the biophysical environment and on human health and welfare and to convey this information to those responsible for sanctioning project proposals at a stage when it can materially affect decisions about future project implementation. In recent years, significant strides have been made to build a legal foundation for EIAs in Sub-Saharan Africa. Whereas EIAs typically used to be carried out only to meet requirements of foreign donors, they are now mandated in twenty-four Sub-Saharan countries, as an important element of domestic environmental law and policy. IPs for Mozambique are expected to understand and document their compliance with local EIA regulations in their Supplemental IEEs.

REGULATORY STRUCTURE

The principal framework for environmental management and impact assessment in Mozambique is established by the **Environment Law No. 20/97** (October 1, 1997), which defines the legal basis for the proper use and management of the environment and its components in order to establish a system of sustainable development in Mozambique. This law sets out the basic protections of the environment, establishes protected areas, prohibits activities that threaten biodiversity, opens space for community participation in environmental protection, and requires environmental licensing for development projects. Licensing includes Environmental Impact Assessments (EIAs), official public participations, and Environmental Management Plans (EMPs).

The Constitution of the Republic of Mozambique approved by the Parliament in 2004 states that all citizens have the right of living in a balanced environment and the obligation of protecting it from degradation. The Constitution also states that natural resources located underground, in the soil, sea, and freshwater belong to the State, and the Constitution calls for the need to establish areas for the protection of nature. Accordingly, the State should adopt policies to protect the environment and encourage sustainable use of natural resources. It is in this regard that Mozambique has approved policies, laws and regulations to protect the environment for future generations. Examples of relevant legislation are listed below:

The **Regulation for the Prevention of Pollution and Protection of the Marine and Coastal Environment** (Decree No. 45/2006 of 30 November 2006) prohibits pollution by chemicals or solid waste, prohibits dumps and landfills of construction materials and toxic or hazardous products along the coast and in fragile ecosystems, such as mangroves, and prohibits activities that change hydrological regimes. This regulation also gives local communities the right to use native flora (such as mangroves), subject to regulation.

The Tourism Law - Law No. 4/2004, of 17 October 2004 establishes the legal framework for tourism development and requires compliance with environmental protection laws and regulations. This law states

that tourism should contribute to the conservation of ecosystems, habitats, and species, and can take place within conservation areas only in strict compliance with their management plans.

Land Law No. 19/97, of 1 October 1997, considers wetlands, mangroves, and salt marshes a partial protection zone measured from the line of maximum tidal highs up to 100 meters inland, and establishes the participation of communities in the management of natural resources.

Forestry and Wildlife Law No. 10/99, of 7 July 1999 and **Regulation of the Forest and Wildlife Law**, Decree No. 12/2002 of 6 June 2002, ensure the customary use of resources by communities and promotes the recovery of degraded areas through forest plantations, and call for establishing protected areas to conserve biodiversity, which should be managed with the involvement of local communities. Local communities should also be part of management councils responsible for the management of forests and wildlife resources outside protected areas. The regulations include details with regard to licensing procedures, forestry exploitation, game farms, fines, etc. The regulations list protected wildlife species, and classify tree species, including mangroves, according to uses of their wood.

General Regulation on Maritime Fisheries, Decree No. 43/2003 of 10 December 2003, limits the sizes of fishing net meshes (e.g., prohibits fishing with mosquito nets) and establishes minimum sizes of harvested animals. This law prohibits trawling and some seine fishing in bays and estuaries.

General Regulation of Aquaculture, Decree 35/2001 of 13 November 2001, prohibits the transformation of wetlands such as mangroves into aquaculture facilities.

Regulation on the Environmental Impact Assessment Process, Decree No. 54/2015 of 31 December 2015, is applied to all public or private activities that may directly or indirectly affect environmental components.

Law on Protection, Conservation, and Sustainable Use of Biological Diversity, Law No. 5/2017 of May 2017, and Its Regulation, Decree No. 89/2017, amends several articles and republishes **Law No. 16/2014** (the previous Conservation Law). This regulation establishes basic principles and standards for the protection, conservation, restoration, and sustainable use of biodiversity throughout the national territory, especially in conservation areas.

Fisheries Law No. 22/2013 addresses the issue of zoning of fishing areas, quotas, seasons, and habitat protection, as well as prohibits the use of substances dangerous to resources and to biodiversity. A recently added chapter on fisheries policy highlights ecosystem-based fishery management and community rights to participate in management of fisheries.

While some of these regulations need to be updated and strengthened, it is worth considering the immense value of the expansive regulations in place in order to enact environmental policies and strategies. Several key policies and strategies have been recently adopted or are being prepared and / or reviewed. The most relevant for this strategy and action plan are NCCS, Strategy and Action Plan Combat Drought and Desertification, the Strategic Environmental Assessment for Coastal Zone Management, the Action Plan for Green Economy (GEAP), Strategic Plan for the Tourism Sector (SPTS), among others. Other relevant environmental policies include: Biofuels Policy and Strategy (Resolution No. 22/2009 of 4

October), Policy on New and Renewable Energy (Resolution No. 62/2009 of 14 October) and Conservation Policy and Strategy for its Implementation (Resolution No. 63/2009 of 02 November).

The Ministry of Land, Environment, and Rural Development (MITADER) plans, directs, coordinates, and implements policies and legislation in regard to land management, forestry, the environment, wildlife, conservation, protected areas, and rural development. The MITADER manages the system of protected areas through the ANAC, administers donor funding for the environment and biodiversity conservation, and is the primary agency responsible for environmental licensing of all sectors.

The Ministry of the Coordination of Environmental Affairs is mandated to coordinate and fulfill the international initiatives of environmental and biodiversity, as well as adopt the basic legislation that links to the national policy. International conventions and initiatives that Mozambique has ratified include: the 1981 African Convention on the Conservation of Nature and Natural Resources; 1981 Convention on International Trade and Endangered Species (CITES); 1993 Bamako Convention on the Protection of the Ozone Layer; 1994 Framework Convention on Climate Change (UNFCCC); 1994 Convention on Biological Diversity; 1996 Convention on the Protection, Management, and Development Marine and Coastal East Africa Region; 1996 Bamako Convention on the Prohibition of Hazardous Waste Import; 1996 Convention to Combat Drought and Desertification (UNCCD); 2001 Cartagena Protocol on Biosafety; 2003 Convention on the Protection of Wetlands (RAMSAR); 2004 Stockholm Convention Persistent Organic Pollutants; 2009 Bonn Convention on Migratory Species; and 2014 Nagoya Protocol.

More detailed information can be found in the [2016 USAID/Mozambique Tropical Forest and Biodiversity \(FAA 118/119 Assessment\)](#).

3.0 ANALYSIS OF POTENTIAL ENVIRONMENTAL RISK

This section includes analysis for three common activities of fumigation, (given that most BHA activities will use commodity fumigation to prevent the loss of food commodities), increased disinfectant/PPE use, and support for COVID-19-related SMEs. As noted above, these activities can be analysed at this level given the associated environmental impacts and climate risks are well-understood.

The COVID-19 pandemic has brought unprecedented risks to societies globally. USAID is highlighting environmental risks related to increased disinfectant use and waste management to ensure that responses to the pandemic do not introduce additional risks and challenges for beneficiary communities. Most BHA activities will be impacted by COVID-19.

However, the environmental impacts and climate risks of other BHA activities will depend on the specific context in which activities are implemented. Further, BHA activities are typically undefined at the RFA level, which makes the evaluation of potential environmental impacts and climate risks difficult. Therefore, analyses of the environmental impacts and climate risks of other activities need to be undertaken in the Supplemental IEE.

3.1 COMMODITY FUMIGATION

Environmental Impacts

Most BHA activities will carry out the storage and protection of commodities, either as US in-kind food assistance or as locally-procured food commodities. To prevent the loss of food commodity from pest infestations during storage, it is common practice to perform periodic fumigation of warehouses and/or the application of contact pesticides to warehouse surfaces.

As mentioned in the [Fumigation PEA](#), impacts of commodity fumigation must be considered, including:

- Use of the fumigant aluminum phosphide, and to a lesser extent magnesium phosphide, can potentially affect the health of applicators and other on-site workers and visitors.
- Use of the fumigant phosphine gas can affect the health of residents near warehouses being fumigated.
- Fumigation residuals could affect water quality, soil, and non-target organisms.
- Poor practices in transport, storage, application, and disposal of fumigants are a concern for human health.
- Improper disposal practices of rodents and birds killed by phosphine gas could affect human health.
- Phosphine may not completely control fungal contamination.

In addition, it is a USAID agency commitment that activities consider the procurement or promotion of pesticides as a last resort within an Integrated Pest Management (IPM) framework (see [USAID Special Topic Presentation on Pesticides](#)). Whichever their intended use may be, pesticides are potent killing agents and their use poses intrinsic dangers to applicators, households, communities and the environment. These risks include, but are not limited to:

- Use of chemical, non-organic compound-based, and biological or botanical-based pesticides can potentially affect the health of applicators, on-site workers and visitors.
- Poor practices in the transport, storage, application, and disposal of pesticides and pesticide containers are a concern for human and environmental health.
- Pesticides can negatively affect and/or eliminate non-target organisms in the environment, (i.e. predatory insects and pollinators, microorganisms beneficial to soil health, aquatic organisms, etc.)

thereby altering ecological food webs and potentially causing detriment to agricultural production systems.

- Chemical pesticides can contaminate surface and groundwater water, soils, and can bioaccumulate in surrounding ecosystems and organisms, posing a concern for health.
- Misuse or overuse of pesticides can result in pesticide-resistance.

CLIMATE RISKS

As noted in Section 2, Mozambique will experience increasing temperatures. Droughts, cyclones, and storm surges have become more frequent. Due to model uncertainties, it is not possible to get a clear picture for precipitation change for Mozambique under a future climate. However, it is clear that the future will increase climate variability and extreme events. The climate changes expected in Mozambique could impact fumigation by changing herbivore and pathogen range and occurrence, which should also be considered during fumigation, and threatening the effectiveness of fumigation storage effectiveness.

TABLE 2: POTENTIAL ENVIRONMENTAL IMPACTS, AND CLIMATE RISKS, OF COMMODITY FUMIGATION

| Commodity Fumigation | Potential environmental and social impacts | Potential climate risks |
|--|--|--|
| Warehouse treatment of bagged and bulk commodity | <ul style="list-style-type: none"> • Negative health impacts to applicators and on-site workers and visitors (including transporters) • Negative health impacts of residents near fumigation sites • Negative impacts to water quality, soil and non-target organisms if fumigant disperses from the site • Negative health impacts due to poor solid waste management (such as improper disposal of dead birds and rodents killed by fumigants) of fumigation residues/byproducts • Need for ancillary treatment of fungal diseases as Phosphine may not be effective in control of fungal contamination | <ul style="list-style-type: none"> • Certified applicators unwilling to use personal protective equipment due to increased temperatures. • Increased temperatures and changes in rainfall patterns, changes occurrence of pests and pathogens and therefore fumigation requirements. • Warehouses where commodities are stored are in locations threatened by extreme weather, or in flood zones. |

3.2 COVID-RELATED ACTIVITIES

Environmental Impacts

The COVID-19 pandemic and its response activities have both direct and indirect environmental and health impacts. For example, BHA response activities include increased disinfectant use, which can have negative impacts on human health without oversight, and increased PPE use and production which can lead to waste management challenges. Indirect impacts relate to coping mechanisms for beneficiaries whose livelihoods have been impacted by COVID-19. For example, deforestation rates are spiking in many areas of the world as a result of economic hardship related to COVID-19.

The anticipated environmental impacts of COVID-19 are both direct and indirect. COVID-19 response actions relate directly to Activity 2 (disinfectant use), and Activity 3 (COVID-19 PPE production for small

and microenterprise support (SME) support). Indirect environmental impacts of COVID-19 pandemic are also described.

Environmental and human health impacts related to:

- Exposure to COVID-19 at gatherings, informational sessions, and during essential work;
- Exposure to disinfectants/germicides, and hazardous wastes (medical waste, pharmaceuticals, electronics) in health facilities, businesses, public spaces, and/or households; and
- Increased exposure to zoonotic diseases through wildlife trafficking.

Direct environmental and ecological impacts related to:

- Pollution/contamination from inappropriate use or management of disinfectants;
- Pollution/contamination from inappropriately managed Small and Medium Enterprises (SMEs), such as those producing PPE or sanitizer;
- Increase in infectious waste stockpiles, as PPE use increases; and
- Increase in the use of single-use plastics, as, in some cases, plastic bag bans are lifted to minimize the spread of the virus on reusable bags.

Indirect environmental and ecological impacts related to:

- Increased deforestation due to reduced policing of international timber exploitation and community member livelihood coping mechanisms (e.g., charcoal making, firewood); and
- Increased non-timber forest products (e.g., wildlife trafficking), and associated minerals exploitations (e.g., artisanal gold, tantalum, tin, bauxite, mining etc.).

Additional information on the connection between COVID-19 and the environment can be found at the following links:

- [Geneva Environment Network COVID-19 and the Environment Update](#)
- [Working with the Environment to Protect People: UNEP's COVID-19 Response](#)

Climate Risks

Climate and weather shocks and stressors can cause direct and indirect negative impacts to human health, such as heat waves leading to increased heat related illness, or changing temperatures and rainfall patterns changing the distribution of infectious diseases. These impacts may magnify the severity of COVID-19. Furthermore, climate and weather shocks and stressors may also weaken health systems, and these systems' ability to respond to COVID-19. The most vulnerable populations are usually the most impacted by climate and weather shocks and stressors, potentially putting more people at risk of serious illness due to COVID-19.

While it is still unknown how climate and weather impacts COVID-19 transmission, and more evidence is needed for decision making, there is some evidence to suggest that high temperatures and humidity may reduce the transmission of COVID-19.

3.3 OTHER BHA PROGRAM AREAS AND ELEMENTS

This RFA IEE cannot determine the reasonably foreseeable potential environmental impacts and climate risks of interventions within the BHA Activities and Sectors described in Section 1.3, as the scope and technical approach of these interventions have not yet been defined. These interventions will be refined and analyzed in Supplemental IEEs.

4.0 ENVIRONMENTAL DETERMINATIONS

4.1 RECOMMENDED ENVIRONMENTAL DETERMINATIONS

A **Positive Determination**, pursuant to 22 CFR 216.3(b)(1)(ii), is recommended for all commodity fumigation activities that use a restricted use pesticide, as registered by the USEPA. Please see additional information in Section 5 under Condition 6b.

A mid risk rating of a **Negative Determination** applies for the COVID-related activities:

- Support for increased use of disinfectants/germicides and PPE in response to COVID-19
- Support for small and medium enterprises (SMEs) responding to COVID-19

A **Deferral** is recommended for all other activity interventions that are not yet well defined in scope or technical approach pursuant to 22 CFR 216.3(a)(7)(iv). The **Deferral** for these interventions, must be resolved in the post-award Supplemental IEE, in which each intervention will be assigned a threshold determination: **Categorical Exclusion, Negative Determination with Conditions** or **Positive Determination**.

Most activities that previously qualified as a Categorical Exclusion (training, capacity building, meetings, etc.) now present a risk of transmission through workplace exposure, and hence are re-classified as a **Negative Determination**⁵⁴. This determination will remain in place until further notice from the BEO, contingent on approved vaccines and testing being widely-available and accessible.

4.2 CLIMATE RISK MANAGEMENT

The recommended climate risk rating for commodity fumigation is based on the anticipated likelihood and severity of climate risk, per 201mal. **Low, moderate** and **high** risk ratings were identified based on likely climate risks to commodity fumigation.

For COVID-19-related activities, support for increased use of disinfectants/germicides to minimize COVID-19 transmission receives a **moderate** climate risk rating, while support for increased use of PPE and support for PPE production to minimize COVID-19 transmission receives a **low** climate risk rating.

For all other BHA activities, the climate risk rating is postponed, to be assessed with the supplemental IEE analysis.

The following table summarizes the recommended determinations and climate risk ratings based on the environmental analysis conducted. Upon approval, these determinations become affirmed, per 22 CFR 216.

⁵⁴ Research activities, virtual meetings, and other activities that do not involve in-person meetings or gatherings still qualify as **Categorical Exclusion**.

4.3 ENVIRONMENTAL THRESHOLD DETERMINATIONS AND CLIMATE RISK RATINGS

TABLE 3: ENVIRONMENTAL DETERMINATIONS AND CLIMATE RISK RATINGS

| Illustrative Interventions | 22 CFR 216 Environmental Determination | Climate Risk Rating |
|---|---|--|
| Commodity Fumigation | Positive Determination | Low, moderate, and high (see CRM table) |
| Support for increased use of disinfectants/germicides to minimize COVID-19 transmission ⁵⁵ | Negative Determination with Conditions | Low |
| Support for increased use of PPE and support for PPE production to minimize COVID-19 | Negative Determination with Conditions | Low and Moderate |
| Other BHA Activities | <p>Deferral for all other BHA Activities, to be assessed in the Supplemental IEE.</p> <p>Most activities that typically qualify as a Categorical Exclusion (training, capacity building, meetings, etc.) will no longer apply. Activities that would previously qualify for a low or no risk, or a Categorical Exclusion, but now present a risk of COVID-19 transmission through workplace exposure, must qualify as Negative Determination with Conditions.</p> | Postponed Assessment, Rating to be assessed along with Supplemental IEE analysis |

4.4 CLIMATE RISK MANAGEMENT SUMMARY NARRATIVE

This climate risk management screening is conducted at the global level for BHA as part of the pre-award CRM process. The intention is to capture the climate risks that could affect activities anticipated under BHA awards. Given that the specific geographies (e.g., country, region, and coastal proximity), climate conditions, adaptive capacity, and other key characteristics that can shape risk are not yet defined at this level of analysis, the screening focuses on risks that can be broadly applied for a specific type of activity -- in this case, fumigation. Post-award, the partner will complete full screening once activity and geography details are defined. CRM must be provided for all activities, regardless of activity type. A critical resource used in identifying and assessing the climate risks was [USAID's Climate Risk Screening and Management Tool for Strategy Design + Annexes](#).

⁵⁵ As new COVID-19 safety protocols are established globally and implemented (e.g., social distancing, virus and antibody testing, contact tracing, etc), this determination may be subject to change.

5.0 CONDITIONS AND MITIGATION MEASURES

5.1 CONDITIONS

For applicants, USAID BHA environmental compliance at the time of activity design will be met through adherence to both 1) this RFA IEE and 2) completion of a stand-alone, Supplemental IEE, only upon USAID's indication of an intent to award. Once the Supplemental IEE, including the Environmental Mitigation and Monitoring Plan (EMMP), CRM screening, and IAP (including attendant budget), is finalized and approved by the BHA, the IEE is to be used to guide activity implementation. All mitigation measures contained in the Supplemental IEE must be implemented and monitored for effectiveness in reducing potential environmental impacts resulting from interventions.

Document Submission: Abacus

Please note that as soon as Abacus functionality allows, all RFSA Environmental Compliance documentation will be submitted through the Abacus system.

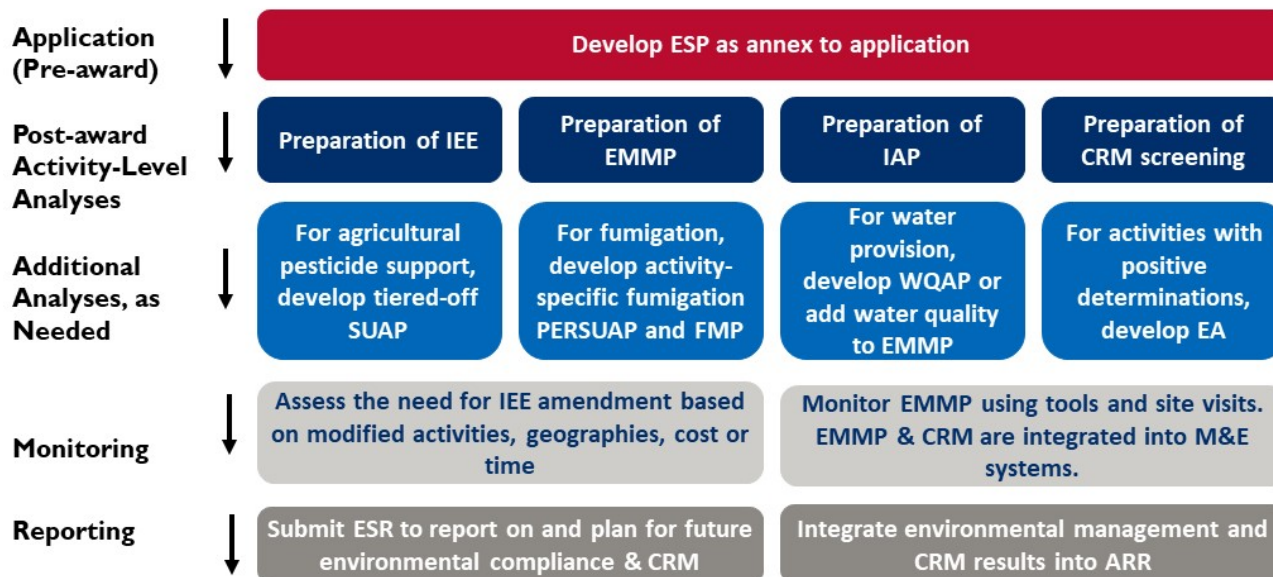
The following 11 conditions (explained in more detail in the sections that follow) describe awardees' environmental compliance, mitigation, monitoring and evaluation responsibilities throughout the life of award (LOA). Figure 2 below provides a visual schematic of the requirements over LOA.

- [Condition 1](#): Applicant to submit Environmental Safeguards Plan.
- [Condition 2](#): Awardee to develop Supplemental IEE for Mission and Washington clearance.⁵⁶
- [Condition 3](#): Implement environmental monitoring requirements. This includes development and alignment of Environmental Mitigation and Monitoring Plan (EMMP) and Climate Risk Management (CRM) with performance M&E systems.
- [Condition 4](#): Awardee to submit Environmental Status Reports (ESRs) annually before the Pipeline Resource Estimate Proposal (PREP). Additional reporting is reflected in the Annual Results Report (ARR).
- [Condition 5](#): Develop an Environmental Assessment for any actions with potential for significant impact to ecological habitats, as determined by USAID.
- [Condition 6](#): Plan for a Pesticide Evaluation Report and Safe Use Action Plan (PERSUAP), which includes for pesticide procurement and/or use (e.g. agriculture, livestock, public health, construction), and/or commodity fumigation mitigation requirements.
- [Condition 7](#): Support the Mission in the development of any Best Practice Review (BPR) for environmental safeguarding.
- [Condition 8](#): Ensure compliance with partner country environmental regulations, including COVID-19 local and international standards.
- [Condition 9](#): Plan for management of packaging waste associated with commodity distribution and increased waste streams due to COVID-19.
- [Condition 10](#): Include awareness of pandemic health risks of activities (e.g., irrigation, roads) that disrupt wildlife habitat, and are exacerbated by climate risks in the IEE.

The environmental determinations in this IEE are contingent upon these general implementation and monitoring requirements, as well as [ADS 204](#) and other relevant requirements.

⁵⁶ The Supplemental IEE is subsidiary analysis to the RFA-IEE, and may also be referred to as the "Activity IEE".

Figure 2. Overarching Environmental Compliance Flowchart for BHA Activities



5.1.1 PRE-AWARD STAGE

CONDITION 1: APPLICANT TO SUBMIT ENVIRONMENTAL SAFEGUARDS PLAN

USAID requires analyses which consider environmental risks across the Agency, using a set of defined procedures to meet USAID environmental requirements. Applicants are expected to design innovative approaches to promote environmental and climate risk management to improve and sustain food and nutrition security of vulnerable populations, as articulated in both SO1 and SO2 of the [USAID 2016-2025 Food Assistance and Food Security Strategy](#). Applicants must summarize these environmental approaches into a four-page Environmental Safeguards Plan.

This plan must summarize:

1. How strategies to reduce both environmental impacts of the activity and climate risks to the activity have been integrated into activity design, including management of packaging waste from commodity distribution⁵⁷;
2. How funds for environmental and climate risk management have been allocated in the detailed/comprehensive budgets and described in the budget narrative;

⁵⁷ See Condition 9A for more information on packaging waste

3. How staffing for oversight of environmental compliance requirements will be carried out over the life of the activity; and
4. How outcomes of the EMMP will inform performance as monitored through the Logical Framework and Indicator Performance Tracking Tables (IPTT) in M&E systems.

5.1.2 POST-AWARD STAGE

CONDITION 2: AWARDEE TO DEVELOP SUPPLEMENTAL IEE FOR MISSION AND WASHINGTON CLEARANCE BY THE END OF THE R&I YEAR

IEE Development

Upon receipt of the BHA award, implementing partners will be required to develop a Supplemental IEE⁵⁸, specific to the award. The Supplemental IEE will describe the environmental impact analysis for all interventions in the project's zone of influence, within the BHA geographies described in the RFA . In short, the Supplemental IEE must 1) summarize the technical design, 2) describe baseline environmental conditions in the BHA zones of influence 3) identify all reasonably foreseeable environmental impacts of interventions, and 4) recommend sound mitigation measures to prevent, reduce or compensate for environmental impacts.

Partners must provide sufficient site-specific information in the S-IEE in order to understand the specific baseline environmental conditions. The inclusion of maps, photos, and geographic coordinates is highly recommended. Further, partners must consider the cumulative impacts of activities occurring in their zones of influence, which can ultimately rise to a Positive Determination, requiring an Environmental Assessment. For example, cumulative impacts could include over-withdrawal of water for irrigation and/or water point provision or increases in pollutant concentrations in a water body or in the soil or sediments.

In order for IEEs to include sufficient level of detail to describe to USAID the potential level of environmental risk, the IEE must include sufficient information about the scope, scale, and locations of anticipated activities. As always, if the partner does not have sufficient information to inform environmental and climate risk analysis at this stage, then the PVO must request Deferral, per [22 CFR 216.3.\(1\)\(iii\)](#)

COVID-19 IEE Implications

1. As noted above in Section 4.3, most activities that previously qualified as a Categorical Exclusion (training, capacity building, meetings, etc.) now present a risk of transmission through workplace exposure, and hence are re-classified as a Negative Determination. This determination will remain in place until further notice from the BEO, contingent on approved vaccines and testing being widely-available and accessible. Research activities, virtual meetings, and other activities that do not involve in-person meetings or gatherings still qualify as Categorical Exclusion. Despite receiving a Negative Determination, activities that previously qualified as a Categorical Exclusion but now present a risk of transmission can still proceed in the Refinement Year prior to IEE submission and approval.

⁵⁸ A word version of the Supplemental IEE template can be found at a Google drive here: <https://drive.google.com/drive/u/1/folders/1CwBSuhORG54Ehe94KbpdecilwO52zGS8>

IEE Timing

Partners must submit their S-IEEs towards the end of the refinement year (Year 1) when activities are better defined so IEEs contain sufficient details about the scope and scale of activities. For any adjustments to this timing the AORs must work with the BEO to determine what timing makes sense.

Box 1: Low-Risk Activities Allowed to Proceed in Refinement Year Prior to Supplemental IEE

Partners can proceed with low-risk activities that typically qualify as “Categorical Exclusion” during the refinement year prior to IEE submission and approval.

However, activities with moderate or unknown risks (“Negative Determination with Conditions”) must have an IEE in place before implementation. This includes any activities involving interventions of physical nature, or activities that involve pesticide procurement, use, or support, which trigger USAID pesticide procedures per 22 CFR 216.3(b). See Condition 6 below for more information on pesticides.

If a S-IEE must be developed during the refinement year for activities with a “Negative Determination”, all other activities, where scope and scale are still undefined, can receive a “Deferral” to be analyzed at a later point in an IEE-Amendment.

Per the RFA, Section C, Activity Design, activities commonly implemented during the refinement year include, but are not limited to the following six (6) activities:

Low-risk activities:

1. Re-implementation formative research and analysis that addresses evidence and knowledge gaps, and strengthens understanding of local context, and helps to prioritize behaviors the activity will address;
2. Meaningful community engagement to 1) enable two-way feedback and participation around the planned activity, interventions and refinement period, 2) enhance understanding of local needs, opportunities and aspirations, and 3) ensure mutual accountability, including in decision making processes.^{58F}
3. Participatory stakeholder engagement for strengthened local partnerships, capacity development and coordination;
4. Refining the TOC and implementation plans; and
5. Preparation for implementation through hiring, staff training, and procurement of goods and services.

Potential moderate or unknown risk activities:

Small-scale operational research, piloting implementation strategies, and start-up of proven, evidence-based implementation strategies.

IEE Amendments

In the event that any new proposed interventions differ substantially from the type and/or agro ecological zone of interventions described in the Supplemental IEE, an IEE Amendment (IEE-A) will be developed, including a revised EMMP (and potentially revised IAP and CRM screening, as needed). Amendments must be sent to BHA and reviewed for approval by the BHA/BEO prior to implementation.

Some of the possible triggers for an IEE-A include, but are not limited to: modified or new interventions, new geographic zone, cost extension, and/or significant time extension, such as an additional year.

Pursuant to 22 CFR 216.2(b), activities involving international disaster assistance or other emergency circumstances may be Exempt from these procedures. Emergency activities with Agreement Officer approval may be Exempt from environmental review, such as the transfer of food commodities pursuant to 22 CFR 211.

It is important to note, EMMP modifications do not require an IEE amendment or USAID approval. However, all EMMP changes and their rationale, should be reported in subsequent ESRs. EMMP revisions during the course of implementation, such as fine-tuning mitigation measures or including additional analysis for unexpected impacts, are encouraged as part of any activity's sound adaptive environmental management.

While BHA Operating Units do not anticipate implementing COVID-19 response activities outside the scope of existing Results Frameworks, USAID recognizes that the COVID-19 situation is changing rapidly and projects will have to respond accordingly. A/CORs must monitor the implementation of COVID-19 response activities for any actions outside of the existing scope assessed by office-specific IEEs. A/CORs must report these actions to the MEO and BEO for resolution on a case-by-case basis.

Sharing Relevant Documentation. Partners are encouraged to share with the BEO (via AORs) any documents developed during the pre-award and R&I period that could support the BEO's review and understanding of the environmental and climate risks associated with anticipated project activities (i.e., gender analyses, feasibility studies, etc.). Documentation sharing will help avoid undue burden and duplication of information by partners throughout the environmental compliance documentation review and clearance process.

Resources. There are important resources that partners can consult when developing Supplemental IEEs:

- For guidance on Environmental Impact Assessment (EIA), consult [USAID's EIA Tool](#).
- For a general introduction on how to develop an IEE, consult the [USAID IEE Assistant](#).⁵⁹
- Partners are advised to consult previous Supplemental IEEs to research common environmental concerns and solutions among BHA activities globally. Partners can utilize the [USAID Environmental Compliance Database](#) to search for USAID-approved IEEs.
- For technical guidance on environmentally sound design and management for USAID development activities, consult the [USAID Sector Environmental Guidelines](#).

EMMP Development

As a component of the Supplemental IEE, BHA applicants must complete an EMMP which serves as the implementation and monitoring plan for all required 22 CFR 216 compliance actions to be taken by a given activity. This RFA IEE provides a template for the EMMP in the annexes. Detailed guidance and best-practice considerations for the development of the EMMP is available on the [USAID Environmental Procedures Website](#). The effectiveness of the individual compliance mitigation measures to prevent or reduce environmental impacts must be monitored periodically throughout the life of the activity. The results of this monitoring should be described in the annual ESR. See information below.

CRM Screening

As a component of the Supplemental IEE, upon receipt of the award, the partners will develop a Climate Risk Management (CRM) screening for all activities. CRM is the process of assessing, addressing, and

⁵⁹ Provides useful overall process information, but templates are out of date and should not be used.

adaptively managing climate risks that may impact the ability of USAID programs to achieve their objectives. It is recommended that Climate Risk Management screening begin with the Supplemental IEEs under this RFA, with the exception of fumigation activities (See Annexes 5 & 6 for more details). Currently, the activity interventions for this RFA are not well defined in scope or technical approach, and therefore it is appropriate to begin Climate Risk Management screening when they are better defined, at the Supplemental IEE stage, pursuant to [Climate Risk Management for Projects and Activities. A Mandatory Reference for ADS 201](#). It is likely that many of these interventions will have **high and moderate climate risks** during implementation. When high and moderate climate risks are identified, Climate Risk Management screening for these activities must be resolved in the post-award Supplemental IEE, in which climate risks, and opportunities to integrate climate into programming, will be identified and addressed as outlined by [USAID policy](#) and BHA Climate Risk Management guidance (found in Annex 5 and also on the [Climatelinks Climate Risk Management website](#)). Furthermore, a Climate Risk Profile to identify [Climate Risks in BHA Geographies for Mozambique](#)⁶⁰ has been developed to assist with CRM screening under this RFA-IEE.

Additionally, RFSAs must integrate lessons learned from the COVID-19 pandemic into design considerations for future awards. Projects that involve potential ecological habitat loss (e.g., irrigation, road infrastructure) must include the additional risks related to zoonotic disease transmission risks and how climate risks may exacerbate the prevalence and spread.

As well, RFSAs will incorporate such infectious disease transmission risks associated with ecological disruption and climate stressors in ongoing oversight of existing Environmental Compliance and Climate Risk Management of activities. Such risks will be balanced with other more traditional climate risks and environmental impacts identified.

Institutional Arrangement Plan

As a component of the Supplemental IEE, the Institutional Arrangement Plan (IAP) describes the budget and staffing needs for IEE implementation. The IAP describes the implementing partner capacity for fulfilling the implementation conditions required by the Supplemental IEE, EMMP and CRM screening. The IAP is submitted with the Supplemental IEE, and is later updated with the annual ESR⁶¹. A budget for the implementation of the IEE (which is attached to the IAP) must be transparently demonstrated in the Detailed and Comprehensive Budget and Budget Narrative for the award. The budget includes provisions for:

- internal staffing
- technical support
- training
- monitoring/reporting
- pesticide expertise
- environmental assessments, as needed

An IAP template can be found in [Annex 3](#) and at the following Google Drive:
<https://drive.google.com/drive/u/1/folders/1CwBSuhORG54Ehe94KbpdecilwO52zGS8>

⁶⁰ Under development, will be posted on this webpage once final.

⁶¹ *The ESR is similar to the Environmental Mitigation and Monitoring Report (EMMR) used elsewhere in USAID. However, the ESR meets both purposes of reporting and budget planning for environmental compliance.

Budget Guidance. The budget for environmental compliance must not exceed the Total Estimated Cost (TEC) of the multi-year activity. Rather this compliance budget must be allocated from within the award TEC. Failure to do so in a transparent manner, will result in delays. The budgeting for environmental compliance is to be reviewed in the beginning of the activity, and annually with the Pipeline and Resource Estimate Proposals (PREPs⁶²). Refer to the [USAID Environmental Budgeting Toolkit](#) for step-by-step guidance for both budget developers and USAID budget reviewers. While the BEO can provide guidance on budgeting for environmental compliance, only the AO can authorize budget commitments.

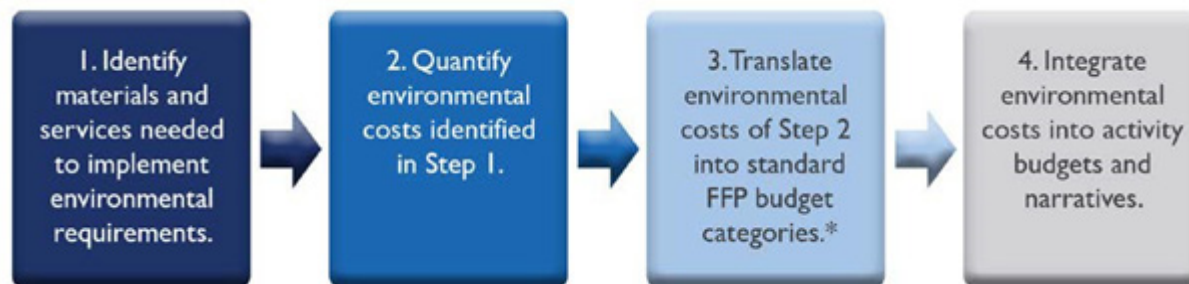


Figure 3. Developing Activity Budgets for Environmental Compliance Requirements.⁶³

**Note: It may be possible to combine Steps 3 and 4 into a single step, depending on the particular budgeting process. It is shown here as two separate steps for greatest clarity.*

USAID Clearances: The BEO Issues Letter

The BEO Issues Letter is a review memo that describes questions, concerns, or changes that should be made to the document before it can receive final BEO clearance. Issues Letters are prepared following submission of IP inputs, both post-award and throughout the project life-cycle (IEEs, ESRs, PERSUAPs, EAs, etc.). The BEO will solicit MEO input on the Issues Letter for a field perspective (and REA input, as relevant), as well as BHA technical team input (gender, WASH, engineering, etc.) as appropriate. In accordance with AOR advisement, IPs will need to respond to the Issues Letter and revise their documentation accordingly before re-submitting for BEO clearance. Upon final BEO and CIL approval, all environmental compliance documentation is subsequently shared with the implementing partner and uploaded to the publicly accessible [Environmental Compliance Database](#). Supplemental IEEs must be approved by the USAID BHA Bureau Environmental Officer (BEO) and Climate Integration Lead (CIL) prior to the implementation of medium-risk interventions (i.e., classified as a Negative Determination with Conditions as per 22 CFR 216).

⁶² The PREP describes an awardee's resource needs and interventions for a specific upcoming period of time agreed to by the partner and the Agreement Officer's Representative.

⁶³ Source: Adapted from [Environmental Compliance Budgeting Toolkit](#), P.5.

Box 2: Drinking Water Quality-- Requirements and Additional Guidance

Per USAID regulations, implementing partners are required to monitor drinking water for arsenic and fecal coliform levels in the case of new construction or rehabilitation of drinking water infrastructure (Guidance Cable State 98 108651). USAID has developed a guidance tool for water quality, termed the [Water Quality Assurance Plan \(WQAP\)](#). This plan provides a template for partners to articulate a clear path for water quality assurance, as well as establish a corrective plan of action if contamination or exceedances are identified. Additional support for improved water supply systems can be found in the USAID [Visual Field Guide](#) which includes simple photo-rich monitoring tools in English and French. Water quality and quantity assurance is important for food security in Mozambique. If RFSA applicants intend to directly or indirectly support the provision of potable water, partners should submit a plan for water quality assurance either through the WQAP or by incorporating the needed information in the EMMP. These WQAPs will also be shared with BHA WASH staff in Washington and/or the field.

Given the significant resource and capacity constraints within many BHA host countries, partners using the WQAP are strongly encouraged to tailor or modify this guidance to fit the context and to reflect a realistic plan for ensuring water quality. For example, if host government water quality labs are unavailable, partners could provide a plan for field monitoring of water quality that still strives to engage and build capacity of local officials or private operators.

CONDITION 3: IMPLEMENT ENVIRONMENTAL MONITORING REQUIREMENTS

Environmental monitoring is crucial to ensuring that environmental compliance and climate risk management requirements are being successfully implemented. Partners can use environmental monitoring systems and site visits (described below) to implement monitoring requirements. These methods should be incorporated into the project's wider M&E systems.

3A. DEVELOP ENVIRONMENTAL MONITORING SYSTEMS

EMMP Tools for Field Monitoring: Implementing Partners can develop EMMP tools (such as checklists) to assist in the integration of environmental management issues in the planning, design, implementation and monitoring phases. EMMP tools can be designed for rapid environmental diagnostic exercises, which aim to identify site-specific environmental conditions that may lead to the generation of localized impacts. This analysis can be used to determine the most appropriate environmental management strategies on a site-specific basis. For monitoring purposes, tools can also be designed to facilitate the data collection and monitoring of EMMP indicators. The environmental monitoring system that the partners use or develop should be described in the IAP, mentioned above under Condition 2.

One such example of site field monitoring tools is the [Visual Field Guides](#), which are intended to support field environmental monitoring of select interventions by development professionals, including those who are not environmental specialists. They are photo-based, simple yes-no checklists that identify the most typical, significant environmental design and management considerations by the development sector.

Another example of an environmental monitoring checklist system is the Go Green Strategy (GGS). This scorecard system provides environmental management information in a simple Yes/No checklist, which can be used as a monthly monitoring tool by field agents. USAID conducted a more detailed assessment of

the GGS through a field assessment, as described in the "[Examination of Environmental Foundations for Program Design Environmental Compliance Review and Go Green Strategy Snapshot](#)".

A new tool for use on phones, tablets and browsers is the [Nexus Environmental Assessment Tool \(NEAT+\)](#). NEAT+ is based in [Kobo Toolbox](#), open-source software for project level assessment of the current sensitivity of the local environment, highlighting any underlying vulnerabilities. NEAT+ is hosted on [EHA Connect](#) which is a portal to help environmental actors engage in the disaster space and humanitarians develop more resilient emergency management systems. The NEAT was developed with a broad range of humanitarian and environmental stakeholders as part of the [Joint Initiative](#) for the Coordination of Assessments for Environment in Humanitarian Action.

USAID Environmental Compliance Site Visits: As required by ADS 204.5.4, the AOR, in consultation with BHA Managers, Mission Environmental Officers (MEO) and/or the BHA/BEO will actively monitor and evaluate whether environmental consequences unforeseen under interventions covered by this current RFA IEE, and the Supplemental IEEs, arise during implementation and modify or end interventions as appropriate.

Implementing Partners should integrate environmental impacts and mitigation measures for any COVID-related activities.

3B. INTEGRATE ENVIRONMENTAL MONITORING, INCLUDING CLIMATE RISKS, INTO M&E SYSTEMS

A key component of environmental safeguards for USAID activities is to ensure the inclusion of climate risk and environmental considerations into activity performance monitoring systems. For BHA, to promote ongoing safeguards for environmental goods and services while supporting food security, applicants will need to integrate environmental considerations into the overall activity M&E systems.

The M&E workshops, held at the start-up of new BHA resilience food security activities, are designed to convey M&E requirements and to strengthen awardees' Logical Frameworks and Indicator Performance Tracking Tables (IPTTs). During these workshops, awardees have an opportunity to learn about environmental considerations with M&E experts to coordinate the IPTT with the EMMP.

Implementing Partners can also visit the [Food and Nutrition Technical Assistance \(FANTA\) III](#) website for additional tools that can assist with environmental monitoring, such as indicator guides. For more than 15 years, the FANTA project provided support to USAID in the development of methods and best practice guidance to support rigorous M&E systems.

As described in the [Policy and Guidance for Monitoring, Evaluation, and Reporting of Resilience Food Security Activities](#), awardees may make other additions to the Performance Indicator Reference Sheet (PIRS) to clarify the use of a BHA or Mission indicator in the activity's M&E Plan. For example, text may be added to the Rationale section to identify the indicator as part of the activity's EMMP and explain how the indicator is environmentally sensitive to the activity context (please see the [Recommended Performance Indicator Reference Sheet](#)). Clarifications inserted into the PIRs, like those described above, do not 'change' the BHA or Mission indicator; they simply add more information about how the indicator will be collected and which activities beneficiaries or outputs will be considered.

CONDITION 4: AWARDEE TO SUBMIT ENVIRONMENTAL STATUS REPORTS (ESRS) ANNUALLY BEFORE THE PIPELINE RESOURCE ESTIMATE PROPOSAL (PREP). ADDITIONAL REPORTING IS REFLECTED IN THE ANNUAL RESULTS REPORT (ARR).

Reporting on environmental compliance throughout the programming lifecycle assists BHA in understanding whether the RFSA is making adequate progress toward achieving results from the prescribed environmental safeguards and compliance with USAID regulations. Implementing partners report on USAID environmental compliance by developing Environmental Status Reports (ESRs) and integrating environmental and climate reporting into Annual Results Reports (ARRs).

Environmental Status Report (ESR)

ESRs⁶⁴ must be completed by all BHA awardees on an annual basis to report on progress toward achieving environmental compliance. ESRs must be submitted along with the M&E plans in January, or at least three 1-3 months before the anticipated PREP submission by the partners. The ESR is designed to:

1. Document environmental safeguard staffing and budget for the upcoming implementation year, matching the budget narrative for the award; and
2. Identify progress towards achieving environmental compliance and reducing climate risks, including a report out on EMMP monitoring.

The ESR template⁶⁵ provides instruction to awardees on what information must be included in the ESR

ESRs must include reporting on implementation of Environmental Compliance for any COVID response interventions.

Annual Results Reports (ARRs)

Awardees are required to submit an ARR for each FY during which interventions were implemented, regardless of when funding or food assistance commodities were provided. An ARR describes the performance results of interventions implemented during the reporting FY. The ARR should include the results of IPTT environmental and climate change indicators, environmental monitoring reports, assessments, action plans, and/or case studies related to the integration of environmental safeguards and climate change considerations. Please see the [USAID ARR Guidance](#) for more information.

CONDITION 5: DEVELOP AN ENVIRONMENTAL ASSESSMENT FOR ANY ACTIONS WITH POTENTIAL FOR SIGNIFICANT IMPACT TO ECOLOGICAL HABITATS, AS DETERMINED BY USAID.

Increasingly, BHA partners have been responding to the need to develop more significant physical infrastructure to meet food security demands. For activities with potential for significant environmental effect, USAID may require partners to complete a full environmental impact assessment.

⁶⁴ Also known as Environmental Mitigation and Monitoring Reports (EMMRs) elsewhere in USAID.

⁶⁵ A Word version of the ESR template can also be found at the following Google Site: and at the following Google Drive: <https://drive.google.com/drive/u/1/folders/1CwBSuhORG54Ehe94KbpdecilwO52zGS8>

A Positive Determination, pursuant to [22 CFR 216.3\(a\)\(2\)\(iii\)](#) or 22 CFR 216.5, may arise if an intervention determined as a Deferral by this RFA IEE is later identified as having the potential to cause significant environmental effect. Interventions that receive a Positive Determination will require further analysis, such as a [Scoping Statement](#) and [Environmental Assessment](#). The following classes of actions have been determined generally to have a significant effect:

- Programs of river basin development;
- Irrigation or water management projects, including dams and impoundments;
- Agricultural land leveling;
- Drainage projects;
- Large scale agricultural mechanization;
- New lands development;
- Resettlement projects;
- Penetration road building or road improvement projects;
- Powerplants;
- Industrial plants;
- Potable water and sewerage projects other than those that are small-scale.

Additionally, if the proposed activity will have the effect of jeopardizing an endangered or threatened species or of adversely modifying its critical habitat, the Threshold Decision is a Positive Determination.

CONDITION 6: PLAN FOR A PESTICIDE EVALUATION REPORT AND SAFE USE ACTION PLAN (PERSUAP)

6A. PERSUAPS FOR PESTICIDE USE (E.G. AGRICULTURE, LIVESTOCK, PUBLIC HEALTH, CONSTRUCTION)

BHA partners must take note that pursuant to [22 CFR 216.3\(b\)](#), in the event that any interventions include the promotion, procurement, transport, storage or disposal of pesticides for agricultural or livestock interventions, vector control interventions, or construction material treatment, a PERSUAP for proposed pesticides must be approved by the BHA/BEO prior to the commencement of these interventions. PERSUAPs should be submitted with Supplemental IEEs (or as amendments to Supplemental IEEs). For more information on USAID environmental compliance policy requirements related to pesticides and PERSUAPs, see this [Special Topic Presentation](#).

Tiering off of Existing Mission PERSUAPs. BHA encourages its awardees to tier off existing USAID analyses when possible, thereby reducing the need to carry out new and potentially redundant analyses, yet allowing for the appropriate consideration of the specific needs and context of each resilience food security activities. In this case, the BHA activity will need to develop a Safe Use Action Plan (SUAP). The SUAP provides a succinct, definitive stand-alone statement of compliance requirements, synthesized from the 12-factor analysis. It also assigns responsibilities and timelines for implementation of these requirements.

Mozambique has a [Agricultural Portfolio Programmatic PERSUAP](#) that partners can “tier off” from when developing their project-specific SUAP.

6B. COMMODITY FUMIGATION MITIGATION REQUIREMENTS, PER THE USAID PEA FOR PHOSPHINE FUMIGATION OF STORED AGRICULTURAL COMMODITY

USAID requires that the person/people carrying out commodity fumigation operations hold official certification to perform the fumigation, use fumigants according to the directions on the product label, and follow all listed directions, precautions, and restrictions. Fumigants will be used only for commodities and at sites specified by the product label.

USAID has developed an assessment of environmental and health risks in the fumigation of food assistance commodity entitled [USAID Programmatic Environmental Assessment \(PEA\) for Phosphine Fumigation of Stored Agricultural Commodity](#). The PEA includes a [Pesticide Evaluation Report and Safer Use Action Plan \(PERSUAP\) template](#), and a [Fumigation Management Plan \(FMP\) template](#). These tools are intended to assist in compliance with the Fumigation PEA's requirement for completion of an activity-specific PERSUAP and FMP reporting. The Fumigation PERSUAP should be developed as soon as the warehouse and fumigation service providers are identified, and in advance of the need for fumigation. It is preferred that this PERSUAP be submitted with the Supplemental IEE, if possible. Specific mitigation requirements for the fumigant phosphine are provided in the Fumigation PEA.

Please note that TOPS has released their [Warehouse Staff Safety Guide](#) (November, 2014) which is an excellent resource to assist awardees in the design of education campaigns for warehouse commodity storage. The Warehouse Safety Guide posters, which highlight best fumigation practices, are in compliance with the findings of the Fumigation PEA, and complements the PEA with practical guidance, information, recommendations and tools to promote warehouse staff safety and prevent injury and illness. The materials include an 80-page manual, 7 Warehouse Staff Safety Posters, a 2-day Facilitator's Training Tool, and various other tools and checklists to help organizations adhere to minimum safety standards in the warehouse. The Guide was funded by USAID through a TOPS Program Micro-grant and developed by Project Concern International (PCI) and the TOPS Commodity Management Task Force. TOPS has also developed a [Facilitator's Guide to Integrated Pest Management and Fumigation Safety](#). This includes modules on pesticide compliance, integrated pest management, and phosphine fumigation.

6C. ALL BHA PROGRAMS INCREASING THE USE OF DISINFECTANTS AND GERMICIDES RELATED TO COVID-19 WILL NEED TO FOLLOW PERTINENT GUIDELINES PER USAID PESTICIDE PROCEDURES, PROVIDED HERE-IN.

There are a range of environmental health concerns related to increased disinfectant and germicide use⁶⁶. Some non-medical-use germicides utilized for cleaning inanimate objects and surfaces (environmental surfaces) are classified by the US Environmental Protection Agency (USEPA) as pesticides. This definitional distinction does not suggest that non-medical disinfectants are more toxic than medical use disinfectants. For purposes of USAID environmental review, however, this USEPA definition triggers the Pesticide Procedures analysis found at [22 CFR 216.3\(B\)\(1\)A-L](#).

Partners must abide by the PERSUAP found in Annex B and the additional guidance found in Annex C:

- Annex B: COVID-Related PERSUAP

⁶⁶ A germicide is an agent that can kill microorganisms, and includes antiseptics and disinfectants. Antiseptics are germicides applied to living tissue and skin and disinfectants are antimicrobials applied only to inanimate objects. Source: <https://www.cdc.gov/infectioncontrol/guidelines/disinfection/introduction.html>

- Annex C: COVID-19 Prevention: Enhanced Cleaning and Disinfection Protocols

For the purposes of COVID-19 response activities, Annexes B and C satisfy the pesticide analysis requirements of [22 CFR 216.3](#). The most recent list of surface disinfectants approved by the USEPA for COVID-19 can be found here: [List N: Disinfectants for Use Against SARS-CoV-2 \(COVID-19\)](#)

Note that disinfectants/germicides are generally less dangerous than pesticides used for agriculture, fumigation/warehouse protection, or construction. The negative impacts of disinfectants used for health are widely understood and well-controlled globally (e.g., the use of aquatabs in humanitarian assistance activities).

However, given the extreme behaviors some have taken for COVID-19 eradication (i.e., ingesting disinfectants), guidance on safe disinfectant use is extremely important for partners and must be taken seriously.

CONDITION 7: SUPPORT THE MISSION IN THE DEVELOPMENT OF ANY BPR FOR ENVIRONMENTAL SAFEGUARDING

The Environmental Compliance Best Practice Review (BPR) was developed under the USAID Africa Bureau to enhance environmental management and oversight on USAID programming. Since 2008, over 20 BPRs have been conducted, principally in USAID's Africa and Asia regions. In 2015, USAID/AFR updated its BPR standard to account for updates to USAID Automated Directives System sections 201 and 204. Building from this updated USAID/AFR BPR standard, there has been a movement by other pillar and regional bureaus to undertake similar reviews, including in BHA. The purpose of the BPR is to improve the effectiveness of Mission and Bureau compliance with USAID's environmental and CRM procedures and to better integrate compliance into Mission and Bureau operations. Examples of previous BPRs are available upon request.

Process: BHA BPR reviews are conducted via a mix of desk review, interviews, and field visits, and result in an action plan to correct gaps and weaknesses in environmental compliance and CRM processes during project design and implementation. BPR reviews are not audits, but voluntary gap analyses. IPs should coordinate with the BPR facilitators to determine the extent to which adequate environmental compliance and CRM procedures are integrated into all processes at the program and activity levels, as well as to identify any areas for improvement.

CONDITION 8: ENSURE COMPLIANCE WITH PARTNER COUNTRY ENVIRONMENTAL REGULATIONS, INCLUDING LOCAL AND INTERNATIONAL STANDARDS.

Implementation will in all cases adhere to applicable partner country environmental laws. The Supplemental IEE supports and strengthens the rule of law for systems of environmental governance in partner countries. In order to ensure environmental compliance, the status and applicability of the partner country's policies, programs, and procedures in addressing natural resources, environment, food security, and other related issues must be incorporated into each activity. This may include incorporating the national policies pertaining to environmental assessment or other policies related to the sector. Implementing partners must be aware of and ensure compliance with the country's regulations where their activity is located.

COVID-19. Activities unrelated to COVID-19 response actions may still be impacted. Therefore, in all project activities, BHA Operating Units must abide by the following:

- Interventions must build awareness, providing and requiring [training and capacity building](#) around best environmental and health and safety practices in the context of COVID-19 pandemic;
- Follow Agency and international guidelines for COVID-19 response (see Section 2.2 for examples);
- Ensure [access to technical expertise](#) for implementing sound environmental and health and safety practices for COVID-19-response and COVID-affected activities;
- Comply with the [USAID AFR COVID-19 Programmatic IEE](#); and
- Comply with relevant host country and international standards regulations pertaining to COVID-19.

Approved IEEs from the same geographic areas may provide valuable guidance and be a beneficial resource for cross-checking information and developing a deeper knowledge of country-specific regulations and policies. These IEEs are available on the Agency's Environmental Compliance [Database](#).

CONDITION 9: PLAN FOR MANAGEMENT OF PACKAGING WASTE ASSOCIATED WITH FOOD AID COMMODITY DISTRIBUTION AND INCREASED WASTE STREAMS DUE TO COVID-19.

9A. PACKAGING WASTE MANAGEMENT

The waste management crisis is particularly acute for countries receiving humanitarian assistance (particularly Title II funding where food commodities are distributed), that often lack sufficient infrastructure or management systems to handle the solid waste generated by this assistance. In the face of these challenges, humanitarian packaging waste, particularly plastic, is of critical environmental concern in humanitarian operations. The increased frequency and intensity of extreme precipitation and hurricanes due to climate change and the improper disposal of packaging waste will continue to lead to clogging of drainage and waterways, increasing risk of flooding and therefore increased flow of waste to coasts and waterways, as well as clogging of drainage canals.

USAID is facilitating a multi-institutional and multi-disciplinary effort to coordinate collective, impactful solutions in the humanitarian packaging landscape. Please note that in collaboration with NGO and UN partners, USAID has completed the first phase of scoping the issue of unmanaged packaging waste due to humanitarian assistance. The scoping phase includes perspectives on the magnitude of the issue, what partners are doing presently to address it, and next steps that USAID and partners will be taking to make further progress. These include collective roadmapping, assistance and institutional assessments, and pilots of technologies for reducing, reusing, and recycling packaging.

The Scoping Statement has been finalized, and is available [here](#).

As part of the follow-on to this scoping process, BHA, in collaboration with institutional partners central to the distribution and management of humanitarian assistance, are working with the Massachusetts Institute of Technology (MIT) Lincoln Labs on developing packaging recycling technologies for use at assistance distribution sites and connected with local recycling facilities.

For the next step in the process (the Environmental Assessment), USAID is working to strengthen coordination across stakeholders by facilitating a collaborative roadmapping process together with a group of core stakeholders working in packaging waste management. This collective planning exercise will

identify priority areas of intervention and map a coordinated plan of action for collectively achieving improvements in humanitarian packaging. Following the roadmapping process, USAID and partners will work on designing and implementing co-created projects that minimize the damage caused by packaging to people and the environment while respecting the life saving imperative of humanitarian assistance.

9B. INCREASED WASTE STREAMS DUE TO COVID-19

COVID-related response activities have the potential to generate significant amounts of additional plastic waste, much of it infectious, adding to the already manageable levels of waste. For example, PPE use for all activity types will increase. PPE is often plastic and billions of masks and gloves are being discarded around the world. Further, many plastic bag bans are temporarily lifted to reduce the risk of the virus spreading via personal reusable bags. Existing recycling initiatives will also be facing staffing challenges. Therefore, managing this waste stream is crucial now more than ever. Partners must work to ensure that all activities (including COVID response activities) have the appropriate waste management protocols in place to minimize the impact of this waste on human health and the environment.

During this time, waste that could potentially be contaminated with the COVID-19 virus needs to be treated as infectious medical waste. See guidance on waste management for COVID-19 response efforts here: <https://www.unenvironment.org/news-and-stories/press-release/waste-management-essential-public-service-fight-beat-covid-19>.

Additional mitigation measures can be found in the CRM table linked above.

CONDITION 10: INCLUDE AWARENESS OF PANDEMIC HEALTH RISKS OF ACTIVITIES (E.G., IRRIGATION, ROADS) THAT DISRUPT WILDLIFE HABITAT, AND ARE EXACERBATED BY CLIMATE RISKS.

Partners must integrate lessons learned from the COVID-19 pandemic into design considerations for future awards. Projects that involve potential ecological habitat loss (e.g., irrigation, road infrastructure) must include the additional risks related to zoonotic disease transmission and how climate risks may exacerbate the prevalence and spread.

In tandem, BHA will incorporate such infectious disease transmission risks associated with ecological disruption and climate stressors in ongoing oversight of existing Environmental Compliance and Climate Risk Management of activities. Such risks will be balanced with other more traditional climate risks and environmental impacts identified.

6.0 LIMITATIONS OF THIS INITIAL ENVIRONMENTAL EXAMINATION

The determinations recommended in this document apply only to interventions described herein. Other activities that may arise must be documented in either a separate IEE, if the activities are within the same activity an IEE amendment, or other type of appropriate environmental compliance document and shall be subject to an environmental review.

Other than activities determined to have a Positive Threshold Decision, it is confirmed that the activities described herein do not involve actions normally having a significant effect on the environment, including those described in 22CFR216.2(d).

In addition, other than activities determined to have a Positive Threshold Decision and/or a pesticide management plan (PERSUAP), it is confirmed that the activities described herein do not involve any actions listed below. Any of the following actions would require additional environmental analyses, environmental determinations, and climate risk management screening:

- Support project preparation, project feasibility studies, or engineering design for activities listed in §216.2(d)(1);
- Affect endangered and threatened species or their critical habitats per §216.5, FAA 118, FAA 119;
- Provide support to extractive industries (e.g. mining and quarrying) per FAA 117;
- Promote timber harvesting per FAA 117 and 118;
- Lead to new construction, reconstruction, rehabilitation, or renovation work per §216.2(b)(1);
- Support agro-processing or industrial enterprises per §216.1(b)(4);
- Provide support for regulatory permitting per §216.1(b)(2);
- Lead to privatization of industrial facilities or infrastructure with heavily polluted property per §216.1(b)(4);
- Procure or use genetically engineered organisms per §216.1(b)(1); and/or
- Assist the procurement (including payment in kind, donations, guarantees of credit) or use (including handling, transport, fuel for transport, storage, mixing, loading, application, clean-up of spray equipment, and disposal) of pesticides or activities involving procurement, transport, use, storage, or disposal of toxic materials. Pesticides cover all insecticides, fungicides, rodenticides, etc. covered under the Federal Insecticide, Fungicide, and Rodenticide Act per §216.2(e) and §216.3(b).

7.0 REVISIONS

Per 22 CFR 216.3(a)(9), when ongoing programs are revised to incorporate a change in scope or nature, a determination will be made as to whether such change may have an environmental impact not previously assessed. If so, this IEE will be amended to cover the changes. Per ADS 204, it is the responsibility of the USAID AOR and awardees to keep the MEO/REA and BEO informed of any new information or changes in the activity that might require revision of this environmental analysis and environmental determination.

ATTACHMENTS:

The Attachments of this BHA RFA IEE provide templates and guidance for various components of the environmental review that are helpful for implementing partners (IPs) to develop project-specific environmental and climate risk management documentation. These attachments are available on USAID's BHA Google Drive: <https://drive.google.com/drive/u/0/folders/1CwBSuhORG54Ehe94KbpdecilwO52zGS8>

ATTACHMENT 1: TEMPLATE FOR SUPPLEMENTAL INITIAL ENVIRONMENTAL EXAMINATIONS

ATTACHMENT 2: TEMPLATE FOR ENVIRONMENTAL MITIGATION AND MONITORING PLANS

ATTACHMENT 3: TEMPLATE FOR INSTITUTIONAL ARRANGEMENT PLAN

ATTACHMENT 4: TEMPLATE FOR ENVIRONMENTAL STATUS REPORTS

ATTACHMENT 5: GUIDANCE FOR CLIMATE RISK MANAGEMENT SCREENING

ANNEXES

ANNEX A: ENVIRONMENTAL IMPACTS & MITIGATION MEASURES FOR COVID-RELATED ACTIVITIES

ANNEX B: PESTICIDE EVALUATION REPORT AND SAFER USE ACTION PLAN (PERSUAP) FOR APPROVED DISINFECTANTS

ANNEX C: CLIMATE RISK MANAGEMENT SUMMARY TABLE

ANNEX A: ENVIRONMENTAL IMPACTS & MITIGATION MEASURES FOR COVID-RELATED ACTIVITIES

TABLE 5: POTENTIAL ENVIRONMENTAL IMPACTS, AND CLIMATE RISKS, OF COVID-RELATED ACTIVITIES

| Activity | Potential environmental and social impacts | Mitigation Measures |
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| Support for the increased use of disinfectants/germicides to minimize COVID-19 transmission | | |
| <p>Procurement, distribution, training, and use of germicides on surfaces</p> <ul style="list-style-type: none"> -in community setting -businesses -in private homes | <p>Environmental and health risks of using germicides are dependent on the specific germicide used, method of application, and target, among numerous other factors. In the case of community use, applicators may be less knowledgeable of the risks, appropriate preparation (e.g., dilution) of the germicide. Additionally, they may inappropriately apply the germicide (e.g., not adhering to contact time requirements). Therefore, specific risks cannot be identified but a very general review of associated risks is presented below.</p> <p>Occupational and public exposure risks. Use of germicides by the public and community workers may increase the risk of these persons for developing respiratory illnesses (e.g., asthma) and contact dermatitis, especially when engineering controls (e.g., closed containers, adequate ventilation) and PPE (e.g., gloves) are not being used.</p> <p>Risks inherent to making homemade products. Where manufacturer products are not available, homemade germicides are sometimes prepared. Improper use of chemicals may cause allergic reactions and dermatitis, mixing some solutions, such as cleaning materials that contain ammonia and chlorine may form a deadly gas, some chemicals are irritating to eyes and to the respiratory system. Some of the chemical disinfectants are flammable and explosive.</p> <p>Ineffective treatment risk. Pathogens can be ineffectively treated if there is use of an inappropriate product (i.e., pathogens if intrinsically resistant), application of the product improperly (i.e., incorrect duration, concentration, pH, temperature), failure to remove inorganic debris (i.e., improper cleaning) prior to disinfection, insufficient contact of the disinfectant with the surface to be treated, insufficient concentration of active product.</p> <p>Environmental risks. Germicides are selected for their toxic properties and therefore these products may</p> | <p>Per USAID 22 CFR 216.3(b), pesticides must undergo further analysis. USEPA regulates germicides applied to objects and surfaces (but it does not regulate use of germicides in medical settings). Therefore use of disinfectants for non-medical purposes requires a 22 CFR 216.3(b)(1)(i)a-1 analysis be completed for the selected germicides. Local authorities, host country health ministries, and international and US authorities must be consulted for a list of effective products for the particular pathogen of concern. The following resources are available, but may be updated or changed with the evolving context:</p> <ul style="list-style-type: none"> ● CDC and USEPA recommended germicides for cleaning surfaces: https://www.cdc.gov/coronavirus/2019-ncov/prepare/prevention.html ● https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2 <p>All support for increased use of disinfectants/germicides must abide by the PERSUAP analysis found in Annex B.</p> |

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| | <p>harm beneficial microorganisms, plant and animal life. Some chemicals can contribute to pollution of air, water and soil and some may persist and bioaccumulate during their manufacture, use, or disposal.</p> | |
| <p>Procurement, distribution, training, and use of ULV or fogging germicides -in a community setting</p> | <p>ULV and fogging in public spaces, including city streets, public transportation, schools, community buildings, mosques and churches is typically conducted using ultra-low concentration sodium hypochlorite (dilute bleach); however, the active ingredient used may vary depending on the type of pathogen. The environmental and health risks associated with germicides are dependent on the specific germicide used, method of application, and target, among numerous other factors. Therefore, specific risks cannot be identified but a very general review of associated risk is provided in Sub-activity 4.1. ULVs in particular can pose respiratory threat to workers spraying and to certain sensitive populations, such as those with respiratory illness. Some skin sensitivity may also be possible in the general population. and patients if inappropriately conducted in the healthcare setting.</p> | |
| <p>Procurement, distribution, training, and use of germicides -on surfaces in a medical facility setting</p> | <p>See Sub-activity 4.1</p> | <p>a) For all manufactured and homemade products when selecting a disinfectant/germicide for a particular use, the user must be informed and take into consideration the human and environmental hazardous properties of the chemical and know how to use it properly. Safety Data Sheet (SDS) for all materials used and use instructions must be read and understood by all individuals, who will use the chemicals.</p> |
| <p>Procurement, distribution, training, and use of ULV or fogging germicides in a health facility setting</p> | <p>Environmental and health risks to germicides are dependent on the specific germicide used, method of application, and target, among numerous other factors. Therefore, specific risks cannot be identified but a very general review of associated risk is provided in Sub-activity 3.4.</p> <p>ULVs in particular can pose respiratory threat to workers and patients if inappropriately conducted in the healthcare setting. Older methods of fogging such as the use of formaldehyde, phenol-agents, and quaternary ammonium have shown adverse effects on health in facilities and many are no longer approved by EPA. Newer methods may not have entirely evaluated associated environmental risks.</p> | <ul style="list-style-type: none"> ● In the absence of local guidance, the IP must develop SOP/EHS manuals for the use of germicides or identify applicable SOP resources for disinfection.. See Sub-activity 3.1 for expectations of SOP/EHS contents. The appropriate references must be identified at the time of the outbreak. Two possible resources are: ● Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008 Update: May 2019 ● FDA-Cleared Sterilants and High-Level Disinfectants with General Claims for Processing Reusable Medical and Dental Devices ● General guidance is also provided in Annex 5 and 6 ● Where the IP is supporting use of training of germicides, the implicated staff must be |

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| | | <p>provided training on appropriate use of the disinfectant/germicide, PPE use, health and environmental risks of germicidal use, and appropriate waste treatment methods.</p> <ul style="list-style-type: none"> • Appropriate PPE must be provided to trainees or staff supported by the IP for use and training. |
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Support for increased use of PPE and support for PPE production to minimize COVID-19 transmission

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| <p>Illustrative new SMEs responding to COVID-19 may include but not limited to:</p> <ul style="list-style-type: none"> -PPE production -Sanitizer production -Delivery services -Technology development -Use of UAVs to deliver samples/products | <p>SMEs can cause significant environmental and related public health difficulties, which vary as broadly as the types of enterprises. SMEs can be more pollution-intensive than larger enterprises (per unit of production). When they are numerous and/or concentrated in particular areas, they can create environmental problems of alarming proportions.</p> <p>The adverse environmental impacts of SMEs can impose heavy social and economic burdens on their communities—degrading the ecosystem and food sources, undermining the health of neighbors and workers, and consuming fuel and resources beyond the point of renewability. These burdens in turn place significant costs upon not only the culpable SMEs but also other businesses—such as costs of procuring fuel, and costs of lost worker productivity due to sickness or injury.</p> <p>Environmental Problems caused by SMEs include:</p> <ul style="list-style-type: none"> • Chemical and hazardous waste • Air pollution and particulate dust • Water pollution • Soil erosion • Natural resource depletion • Solid waste • Odor • Noise • Health and safety risks <p>Many decisions made by SMEs have the potential to harm the environment and public health. Specific examples include:</p> <ul style="list-style-type: none"> • Location decisions • Purchasing decisions • Processing/manufacturing decisions • Housekeeping decisions • Waste disposal decisions | <ul style="list-style-type: none"> a) Activities shall be conducted following principles of USAID small scale guidelines chapters: https://www.usaid.gov/environmental-procedures/sectoral-environmental-social-best-practices/sector-environmental-guidelines-resources#ms b) For support to banks, financial institutions, or small grants, activities will be screened to categorize the SME's work to the types and significance of environmental impacts they generate. c) Assistance for SME must comply with local, national, USAID, or its own organizational environmental policies. Yet, it is unreasonable to expect for IPs to conduct a detailed assessment of the impacts of every SME they work with. The goal of the screening phase is to determine quickly and easily assess if an assistance request from an SME (for a loan, business planning, accounting training, etc.) will need environmental review before it can be approved. d) With activities involving hazardous materials, such as disinfectants, the implementing partner must work with the business to develop a written plan to ensure appropriate procurement, storage, management and/or disposal of these materials. e) SMEs producing PPE must ensure consumers are aware of safe disposal options for these materials. |
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| <p>Overall, adverse impacts are often caused by poor practices that go uncorrected because operators don't have the right technical information. Insufficient knowledge can lead to improper use of chemicals, inadequate treatment or disposal of solid and liquid waste, uncontrolled chemical air pollution, and production techniques that make intensive use of nonrenewable resources. Health and safety problems, in particular, are compounded by ignorance of industrial safety and environmental standards, as well as by lack of awareness of protective devices that are generally inexpensive and easy to obtain.</p> | |
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ANNEX B: PESTICIDE EVALUATION REPORT AND SAFER USE ACTION PLAN (PERSUAP) FOR APPROVED DISINFECTANTS

PESTICIDE EVALUATION REPORT (PER) FOR APPROVED DISINFECTANTS AND 22 CFR 216.3(B)(1)A-L ANALYSIS

PURPOSE

The COVID-19 pandemic has brought unprecedented risks to societies globally. USAID is highlighting environmental risks related to increased disinfectant use and waste management to ensure that responses to the pandemic do not introduce additional risks and challenges for beneficiary communities.

USAID has developed this environmental impact and climate risk analysis for the COVID-19 response to ensure all Bureau for Humanitarian Assistance (BHA) partners take responsibility for mitigating direct and indirect environmental and climate risks resulting from the COVID-19 pandemic.

This annex provides BEO conditions and guidance on mitigating key risks related to COVID-19 impacted-activities and COVID-19 response activities.

ACTIVITY DESCRIPTION

This annex describes protocols for the following two (2) RFSA activities:

- Support for increased use of disinfectants/germicides to minimize COVID-19 transmission.
- Support for increased use of PPE and support for PPE production to minimize COVID-19 transmission.

Germicides: In order to prevent spread of the virus, it is expected that BHA partners will be relying on the increased use of germicides (e.g., disinfectants, sanitizers) to clean surfaces.

PPE: BHA partners will also be using or supporting the use of increased Personal Protective Equipment (PPE) to minimize the spread of the virus. USAID approved the use of program funds to finance the local production of medical-grade and non-medical grade personal protective equipment including (but not limited to) masks, gowns, face shields, protective eyewear, boot covers, linens, and gloves.

For the purpose of this document, uses of disinfectants (germicides) are divided into non-medical and medical uses. Some non-medical-use germicides utilized for cleaning inanimate objects and surfaces (environmental surfaces) are classified by the US Environmental Protection Agency (USEPA) as pesticides. This definitional distinction does not suggest that non-medical disinfectants are more toxic than medical use disinfectants. For purposes of USAID environmental review, however, this USEPA definition triggers the Pesticide Procedures analysis found at 22 CFR 216.3(B)(1)A-L.

Categorizations of Disinfectants/Germicides

USAID programs seeking to provide guidance to businesses, institutions and individuals in the procurement and use of disinfectants and sterilants on environmental surfaces (i.e., are not providing guidance on their use for medical purposes) must comply with conditions for non-medical Use of Disinfectants (see Part a) and seek guidance primarily from local authorities. USAID programs seeking to provide guidance for use of pesticides to medical facilities must comply with conditions for Medical Use of Disinfectants (see Part b).

a) Conditions for Non-Medical Use of Disinfectants/Germicides

For activities described below, use of disinfectants/germicides constitutes use of pesticides:

- Procurement and distribution of disinfectant/germicides by partners to all facilities, community health workers, businesses, public institutions, and households for cleaning and disinfection.
- ULV fogging and community-wide surface cleaning in non-medical facilities.
- Training and demonstration of disinfectant/germicide preparation and use as well as solid and liquid waste management.

This is because disinfectant/germicide use on non-medical surfaces is considered use of a pesticide and regulated by USEPA and therefore under 22 CFR 216.3(b)(1)(i) requires USAID Pesticide Procedures' "12-factor analysis."

As such, for these activities the following conditions will apply:

- Use only the following AIs as a sole ingredient and/or in combination of ingredients, that are registered and approved by USEPA and per the BHA COVID-19 PIEE for use of cleaning and disinfecting surfaces:
 - **Alcohols:** Ethanol, Isopropanol, Triethylene Glycol
 - **Salts:** Ammonium Carbonate, Ammonium Bicarbonate, Sodium Carbonate, Sodium Chlorite, Sodium Dichloro-S-Triazinetrione, Sodium Dischloroisocyanurate Dihydrate, Sodium Hypochlorite
 - **Acids:** Citric, Hypochlorous, Glycolic, L-Lactic, Octanoic, Peracetic, Peroxyacetic, Peroxyoctanoic, Phenolics
 - **Peroxides:** Hydrogen Peroxide, Peroxyhydrate
 - **Quaternary Ammonium** compounds
 - **Other ingredients:** Silver ions, botanical oil thymol
- Select products that contain active ingredients or mixture of active ingredients that are approved by this BHA COVID-19 PIEE listed above. For selecting which concentrations are

effective, it is best to consult the [USEPA-approved list of products](#) and identify same or similar products.

- The partner must complete the disinfectant checklist for their planned interventions using disinfectants and retain the document with their EMMP.
- The A/COR and MEO must review and clear on the disinfectant checklist.
- Consult local authorities and follow host country established channels of communication when providing recommendations and procedures for use of disinfectants/germicides.

b) **Conditions for Medical Use of Disinfectants/Germicides**

For activities described below, use of disinfectants/germicides constitutes use of pesticides:

- Use of antiseptics/disinfectants/sterilant germicides on human body and medical **devices and in medical facilities on medical equipment.**

Best Management Practices, Health and Safety and Environmental Mitigation Measures specified by lead health organizations, such as CDC, must be applied to these uses and detailed in the EMMP. Recently developed references for COVID-19 in healthcare settings can be found at:

- CDC's [Information for HealthCare Professionals](#)
- CDC's [Information for Laboratories](#)
- CDC's [Rationale and Considerations for Chlorine Use in Infection Control for Non- U.S. General Healthcare Settings](#)

Mandatory 22 CFR 216.3(b)(1) - 12-Factor Analysis for Pesticides

The following 12-factor analysis meets the requirements mandated by 22 CFR 216.3(b)(1) for pesticide analysis is intended to assist and serve as a basis for SIEE development for implementing partners engaged in activities requiring use of germicides that fall under definition of pesticides as described above. Modifications and additions of relevant information can be made as appropriate.

A. U.S. Environmental Protection Agency (US USEPA) registration status of the proposed pesticides

Active ingredients (AIs) and combinations of AIs listed above are registered by USEPA.

B. Basis for selection of pesticides

These pesticides were recommended by USEPA as effective for treatment of environmental surfaces and are based on full product list provided by USEPA at:

<https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>

C. Extent to which the proposed pesticide use is part of an IPM program

These AIs are recommended in combination with handwashing measures and recommendations to avoid touching face, eyes and mouth with unwashed hands. [The following site](#) provides links to

both CDC recommended hand cleaning procedures: <https://www.cdc.gov/coronavirus/2019-ncov/prepare/prevention.html>

D. Proposed method or methods of application, including the availability of application and safety equipment

Methods of application of products are in accordance with the label and manufacturer instructions. For home made products follow strictly dosage instructions provided by relevant authorities.

E. Any acute and long-term toxicological issues with the proposed use, and measures available to minimize such hazards

All chemical disinfectants are, by their very nature, potentially harmful or toxic to living organisms. Like other toxic substances, the chemical disinfectants can enter the body through several routes, including absorption through skin or mucous membrane, inhalation and ingestion. Sometimes a chemical substance can enter through more than one of the routes. However, chemical disinfectants would be effective and safe tools when handled properly with the safety measures in place. If misused, they can be hazardous and harmful to people and the environment.⁶⁷

Accidental exposure in high doses may result in acute toxic reaction such as skin irritation, dizziness or nausea, or they may be permanent: blindness, scars from acid burns, mental impairment and other adverse health effects. Acute toxicity is often seen within minutes or hours after a sudden, high exposure to a chemical. However, there are a few instances where a one-time high-level exposure causes delayed effects. Symptoms of exposures may not appear for several days.

As a general rule, chronic toxicity appears many years after exposure first began. The health effects may occur where exposure has taken place repeatedly over many years. For this activity, repeated exposure over the long term is not anticipated.

Disinfectants can pose physical/chemical risks and can be flammable or explosive. Products must be stored at temperatures designated by their labels/Safety Data Sheets.

All AIs and products must be accompanied by the label and, where available, a Safety Data Sheet. First aid instructions must be available to users and health workers.

All disinfecting products/AIs and their containers must be properly triple rinsed away from all water sources, punctured and properly recycled or disposed of, never reused.

F. Effectiveness of the requested pesticide for the proposed use

The AI approved by this IEE are contained in USEPA approved/recommended products for disinfection of environmental surfaces against COVID-19.

⁶⁷ <https://www.labour.gov.hk/eng/public/os/C/Disinfectants.pdf>

G. Compatibility of the proposed pesticide use with target and non-target ecosystems

Disinfectants contribute to air and water pollution during their manufacture and use. Cleaning, sanitizing and disinfecting products can increase indoor air pollution. However, AIs identified by USEPA as effective against COVID-19 are recommended by this IEE.

H. Conditions under which the pesticide is to be used, including climate, geography, hydrology, and soils

AIs in products recommended will be used mostly indoors and surfaces around structures. These AIs/products must be used away from ambient environmental water sources and in a manner that prevents runoff.

I. Availability of other pesticides or non-chemical control methods

Only AIs/Products registered by USEPA are recommended. Other AIs, such as aldehydes that are approved by EU for disinfection, are not covered by this IEE.

J. Host country's ability to regulate or control the distribution, storage, use, and disposal of the requested pesticide

Many BHA-affiliated host countries have limited frameworks for regulation of pesticides and most do not satisfactorily regulate disinfectants for use on environmental surfaces. Regulation of disinfectants is a joint effort between Ministries of Health (MoH) and Ministries of Environment (MoE). Many BHA program regions have a network of health clinics and environmental quality directorates that can be instrumental for Training of Trainers (TOT) and promulgation of guidelines for use of disinfectants.

K. Provision for training of users and applicator

Guidelines, training materials and awareness built through Social Behavior Change Communication (SBCC) messaging must be developed for each country, translated to local languages, and distributed through MoH networks. These must also include a list of AIs, labels, SDSs, and instructions for first aid and environmental controls.

L. Provision made for monitoring the use and effectiveness of each pesticide

Use and effectiveness will be tracked through regular reporting by the partners supporting the actions involving germicides. Overall, monitoring effectiveness in limiting spread of COVID-19 will depend on numerous factors that are likely to be monitored as part of disease surveillance by host countries' Ministries of Health and their international donors.

SAFER USE ACTION PLAN (SUAP) FOR USE OF DISINFECTANTS

This annex flows from the Pesticide Evaluation Report (PER) analysis to provide conditions for safe use of disinfectants, including specific practices related to COVID-19. Together with Annex 3, the PER and SUAP satisfy the requirements of 22 CFR 216.3(b)(1)(i). Since information and best practices are still evolving, users must frequently visit websites for updates and maintain contact with their local health authorities.

Disinfection Procedures

Disinfection at a household with a suspect or confirmed case of COVID-19:

A complete guide to disinfecting households with suspected or confirmed COVID-19 cases is available at: <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cleaning-disinfection.html>

When using manufactured product for disinfection of inanimate objects:

- a) Select products that contain active ingredients or mixture of active ingredients that are approved by this IEE. For selecting which concentrations are effective, it is best to consult the USEPA-approved list of products and identify the same or similar products. A full list of products approved is available at: <https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2>
- b) Always ensure that the product has a proper label. Labels of disinfectants must include the following information:
 - Product name
 - Company name and address
 - Net contents
 - Manufacturing/host country registration detail
 - Active ingredients statement
 - Child hazard warning
 - Hazard signal word
 - First aid instructions
 - Precautionary statements and requirements for use of PPE
 - Environmental hazards statements
 - Physical/chemical hazards statements
 - Directions for use and misuse statement
 - Storage and disposal instructions
- c) Always use products in accordance with the label. Strict attention must be given to the proper use of a product with regard to its application, effectiveness, and associated hazards (human, animal, and environment). Where possible, obtain the Safety Data Sheet that provides more extensive product detail.
Directions for use must specify:
 - The surfaces, objects or inanimate environments intended for treatment (floors, walls, bathroom surfaces, etc.)

- The major areas in which the product is intended for use (hospitals, restaurants, homes, schools).
- The level of activity (e.g., Sanitizer, Disinfectant, Sporicide)
- Pathogens against which product is effective
- How the product must be applied
- Pre--cleaning steps
- Recommended use dilution and provide instructions for preparing it including the units of measure (milliliters, liters, ounces, quarts).
- Method of application
- Contact time
- How to remove the product from the surface after the recommended exposure time[1]

When using homemade products for disinfection of inanimate objects:

Natural household disinfectants may be less effective than commercial household disinfectants. It is important to be informed on hazards of AI(s) used for homemade product preparations. Where possible, SDS sheets must be obtained for AI(s) used in preparing homemade products. The SDS information and risk assessment will help determine, the PPE requirements, describe health hazards of unprotected exposure to people and animals, describe physical hazards such as flammability and explosion, and environmental hazards such as toxicity to aquatic organisms, provide hazard statements and first aid instructions and instructions for use, storage and disposal of chemical used in making of a disinfectant.

COVID-19 Categories of Disinfectants – Considerations for Safe Use

Bleach

Homemade disinfectants are most commonly made from household bleach. Chlorine containing bleach is a common household disinfectant.

Household bleach is usually a mixture of chemicals, its main active ingredient is a solution of ~3-6% sodium hypochlorite (NaOCl), which is mixed with small amounts of sodium hydroxide, hydrogen peroxide, and calcium hypochlorite. Unexpired household bleach will be effective against coronaviruses when properly diluted.

Bleach solution preparation recommended by CDC[1]:

Diluted household bleach solutions can be used if appropriate for the surface.

- Prepare a bleach solution by mixing:
 - 5 tablespoons (1/3rd cup) bleach per gallon of water or
 - 4 teaspoons bleach per quart of water
- Follow manufacturer's instructions for application and proper ventilation.
- Check to ensure the product is not past its expiration date.
- Never mix household bleach with ammonia or any other cleanser.

Excessive use of bleach indoors, especially when mixed with some other cleaning agents, can release harmful chlorine gas. Inhalation and long term exposure can cause lung damage and respiratory illnesses.

Chlorine compounds found in bleach are unstable and react with a variety of chemicals and water when it is released into the environment. Because chlorine is so reactive, it is not normally detected in the environment except for very low levels. Bleach spilled into surface water may adversely affect aquatic organisms. Inhaling bleach fumes may cause eye, nose, throat irritation depending on dosage. The effects will depend also on exposure duration. In general, people who suffer from respiratory conditions such as allergies or hay fever, or who are heavy smokers, tend to experience more severe effects than healthy subjects or nonsmokers. Spilling hypochlorite solution on the skin can produce irritation. The severity of the effects depends on the concentration of sodium hypochlorite in the bleach. Drinking small amounts of hypochlorite solution (less than a cup) can produce irritation of the esophagus. Drinking concentrated hypochlorite solution can produce severe damage to the upper digestive tract and even death. These effects are most likely caused by the caustic nature of the hypochlorite solution and not from exposure to molecular chlorine. Long-term exposure to small amounts of sodium hypochlorite has not shown to have significant impacts on human health.^[2]

Alcohols

Alcohols that are components of drinking beverages and rubbing alcohols are recommended for sanitizing, not for drinking. Alcohol products must be at least 70%. Most drinking beverages are below 48% alcohol and not appropriate for sanitizing.

Rubbing alcohol products that are at least 70 percent alcohol reportedly will kill viruses. When using rubbing alcohol, do not dilute it below 70%. Alcohol higher than 70% is not always better, and 70% alcohol is better than 91% because water plays a key role in protein denaturation. Consumer Reports says rubbing alcohol is safe for all surfaces but can discolor some plastics.

Although it has the word alcohol in its name, rubbing alcohol is completely different from the ethyl alcohol found in alcoholic beverages. Isopropyl alcohol, also referred to as isopropanol and IPA, is twice as toxic as ethanol. Swallowing just 8 ounces, or 240 milliliters, of rubbing alcohol can be fatal — but as little as 20 milliliters mixed with water can make a person sick.

Inhaling rubbing alcohol can also cause serious side effects, including headache, nausea, vomiting and irritation of the nasal passages and lungs. Inhaling isopropanol fumes can cause a loss of consciousness.^[4]

Hydrogen Peroxide

Hydrogen peroxide is typically sold in concentrations of about 3%. Hydrogen peroxide at this concentration must be able to neutralize the coronavirus. It is recommended to be left on surfaces for at least 1 minute. Hydrogen peroxide is not corrosive and can be used on metal surfaces. Similar to bleach, it can discolor fabrics. Hydrogen peroxide had minimal impact on the environment as it decomposes into oxygen and water.

Acids

Commercial products effective against Covid-19 often contain acids. Acids range from weak to very strong. Weak acids such as household vinegar are not likely to be effective against coronavirus (NOTE:

Household vinegar (5% acetic acid) combined with hydrogen peroxide creates peroxyacetic acid. It's an EPA approved, environmentally friendly, disinfectant for coronavirus).

Concentrated industrial strength acids are not recommended as they can be extremely [corrosive](#) and can cause dangerous burns when not handled properly. Only acids approved by this IEE can be used in preparation of homemade products.^[5]

Quaternary ammonium compounds

The [quaternary ammonium compounds](#) (QAC) are widely used as surface [disinfectants](#) and are an active ingredient in household cleaning products. Health hazards of QACs include contact dermatitis, triggering of asthma symptoms in people who already have asthma or new onset of asthma in people with no prior asthma, eye and mucous membrane injuries from splashes or contact with mists, and oral and gastrointestinal injuries from swallowing solutions containing QACs.^[6] Some household products can be diluted with water but the correct dosage effective against Covid-19 must be established. ^[7]

Oils

Botanical oil thymol is an ingredient in some USEPA approved products effective against Covid-19. There is no evidence that other oils such as tea tree oil are effective.

ANNEX C: CLIMATE RISK MANAGEMENT SUMMARY TABLE

Table 4: Climate Risk Management Summary Table

| DEFINED OR ANTICIPATED PROGRAM INTERVENTION | TIMEFRAME | GEOGRAPHY | CLIMATE RISKS | RISK RATING | CLIMATE RISK MANAGEMENT OPTIONS | HOW ARE RISKS ADDRESSED | OPPORTUNITIES TO STRENGTHEN CLIMATE RESILIENCE |
|---|-------------------|---|---|-------------|--|--|---|
| Commodity Fumigation | Life of the award | Areas where commodity fumigation will occur. Likely country-wide. | Certified applicators unwilling to use personal protective equipment due to increased temperatures. | Low | Educate applicators on importance of wearing protective equipment | To be determined by partner based on local context | Ensure that applicant training includes information on climate risks and emphasizes the importance of protective equipment |
| | | | Increased temperatures and changes in rainfall patterns, changes occurrence of pests and pathogens and therefore fumigation requirements. | Medium | Conduct review of relevant literature on how pests and pathogens will change in the area due to climate change and evaluate how that might impact commodity storage and fumigation. Ask local community members about observed changes in pathogen and pests over recent years, and use fumigation that is relevant for the current situation. | | Consult relevant literature and local communities frequently throughout the life of project to understand how pests and pathogens could change due to climate change impacts and how that might impact commodity storage and fumigation. Consider climate change impacts when planning inspection times to ensure that any new pest species or increasing occurrences of pest infestations are identified as early as possible. |
| | | | Warehouses where commodities are stored are in locations threatened by extreme | High | During site selection evaluate if storage facilities are in areas that are exposed to | | During site selection evaluate if storage facilities are in areas that are exposed to extreme |

| | | | | | | | |
|---|--------------------|--|---|-----|--|--|--|
| | | | weather, or in flood zones. | | extreme weather or regular flooding. Ensure that all pesticides stored in warehouses (as non-fumigants may also be stored in warehouses) are in locations safe from the impacts of extreme weather events (i.e., on raised platforms in the case of flood risk). | | weather or regular flooding. Improve early warning of climate and weather events, such as rainfall or flood, to improve preventative protection of commodities and stored pesticides |
| Increased use of disinfectants/germicides to minimize COVID-19 transmission | Life of the award. | Areas where COVID is present. Likely country-wide. | Disinfectant/germicide supply chain distribution interrupted due to extreme climate or weather events. | Low | Logistic and supply chain delivery plans and teams should consider alternative routes, be adaptive, and both plan ahead and be prepared for extreme climate and weather events both increasing demand, and interrupting supply chain delivery. | To be determined by partner based on local context | Consider working with host country government to improve climate risk planning and resilience of supply chains. |
| | | | Effectiveness of disinfectants/germicides could be impacted by changing temperature ranges. Sunlight may also breakdown the active ingredients in bleach. | Low | Disinfectants with published temperature ranges appropriate for use should be prioritized. Consider UV ray exposure before spraying bleach outdoors, as it | | Consider raising awareness of climate risk's impacts to efficacy of disinfectants. |

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|---|-------------------|--|--|----------|--|--|---|
| | | | | | may be ineffective. | | |
| Increased use of PPE and support for PPE production to minimize COVID-19 transmission | Life of the award | Areas where COVID is present. Likely country-wide. | Travel for training, capacity building, or other activities for SMEs producing Personal Protective Equipment (PPE) is interrupted due to extreme weather events. | Low | When planning trainings and similar activities, partners must consider seasonal forecasts and rainy seasons when choosing dates. Partners should use contingency planning and consider virtual trainings as options. | To be determined by partner based on local context | Consider integrating how climate contributes to pandemics and infectious disease occurrence during trainings. |
| | | | Locations where PPE is stored or produced may be impacted by extreme weather events or power availability. | Low | Partners should plan ahead and be prepared for extreme climate and weather events to avoid damage to PPE and PPE production facilities. | | Consider working with host country government to improve climate risk planning and resilience of PPE production and storage facilities. |
| | | | PPE supply chain distribution interrupted due to extreme climate or weather events. | Low | Logistic and supply chain delivery plans and teams should consider alternative routes, be adaptive, and both plan ahead and be prepared for extreme climate and weather events both increasing demand, and interrupting supply chain delivery. | | Consider working with host country government to improve climate risk planning and resilience of supply chains. |
| | | | Improper disposal and waste of PPE, clogging drainage | Moderate | Ensure sufficient waste management | | Consider working with local waste |

| | | | | | | | |
|--|--|--|--|--|--|--|---|
| | | | and waterways, increasing risk of flooding due to heavy rainfall events. | | collection and disposal systems are in place to accommodate increased PPE waste, away from known at-risk flooding zones. | | management authorities to plan for and minimize waste runoff associated with extreme weather events and flooding. |
|--|--|--|--|--|--|--|---|