



NATIONAL AGRICULTURAL RESEARCH ORGANIZATION

ENVIRONMENTAL AND SOCIAL SAFEGUARDS POLICY GUIDELINES

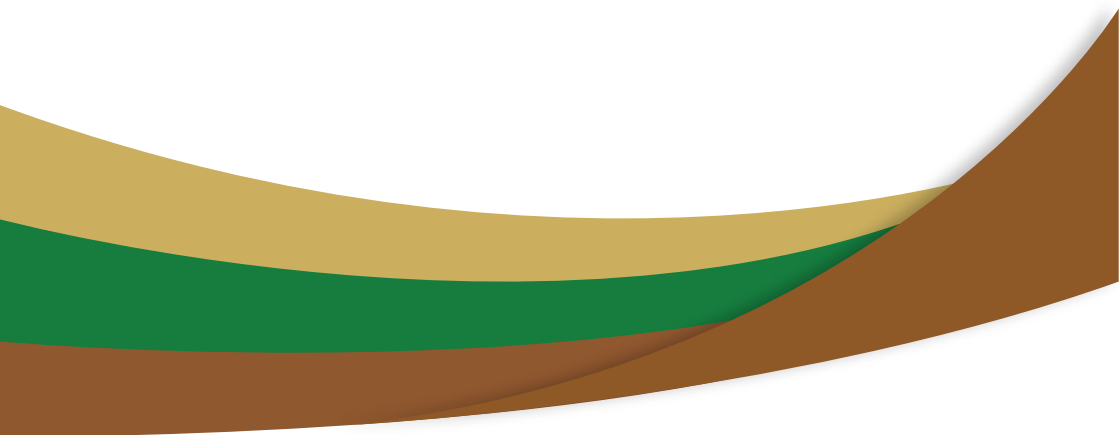


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PREFACE

The National Agricultural Research Organization (NARO), as Uganda's lead agency for agricultural research, recognizes the critical need to integrate environmental and social safeguards (ESS) into all research, development, and innovation. Uganda's agriculture depends heavily on natural resources which are increasingly under strain from human activity and climate change. Safeguarding these resources is key to food security, environmental sustainability, and inclusive development.

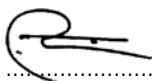
The Environmental and Social Safeguards (ESS) Policy Guidelines provide a practical framework to operationalize NARO's ESS Policy. While the policy outlines principles and commitments, the guidelines offer step-by-step tools and procedures for identifying, managing, and monitoring potential environmental and social risks across research programs and projects.

By embedding safeguards in the research cycle, the guidelines ensure innovations are scientifically sound, socially inclusive, and environmentally sustainable. They also promote practices that strengthen community wellbeing, conserve ecosystems, and build resilience to emerging challenges.

Developed through broad consultations with NARO staff, the ESS Task Force, governance committees, and partners, the guidelines align with national priorities and international standards of environmental stewardship and social accountability.

They serve as both a technical reference and an ethical platform for researchers, project managers, and partners. When applied effectively, they will advance agricultural research that is sustainable, inclusive, and socially responsible, while safeguarding the natural resources on which Uganda's agriculture depends.

For God and My Country



.....
Dr. Yona Baguma

DIRECTOR GENERAL

FOREWORD

The National Agricultural Research Organization (NARO) is mandated to coordinate and guide agricultural research in Uganda. Environment and natural resources are the foundation of sustainable agriculture and central to food security and socio-economic transformation. Advancing agricultural research therefore requires balancing the use of natural resources with safeguarding the environment, ecosystems, and society. Agricultural research today faces challenges such as climate change, biodiversity loss, resource degradation, pollution, and social inequities, which directly affect production systems, livelihoods, and national development. NARO is committed to addressing them by embedding responsible and sustainable practices into its research agenda and operations.

The Environmental and Social Safeguards (ESS) Policy Guidelines were developed to provide practical direction for identifying, assessing, and managing environmental and social risks that may arise from NARO's research programs and activities. They promote best practices that conserve ecosystems, strengthen community resilience, and foster inclusive agricultural innovation. The guidelines also ensure that environmental and social considerations are integrated into all stages of research planning, design, and implementation. Their formulation was informed by wide consultations involving NARO staff, the ESS Task Force, the Policy Management and Top Policy Committees, the NARO Governing Council, and development partners.

I urge NARO management, staff, and stakeholders to apply these guidelines as a practical reference for sustainable resource use and to ensure that agricultural research innovations deliver equitable, socially inclusive, and environmentally sound outcomes.

For God and My Country



Dr. William Olaho-Mukani

CHAIRPERSON, NARO GOVERNING COUNCIL

ACKNOWLEDGEMENT

The development of these Environmental and Social Safeguards (ESS) Policy Guidelines was made possible through the commitment, guidance, and contributions of many individuals and institutions.

Special appreciation goes to Dr. Yona Baguma (Director General, NARO) for his overall leadership and technical guidance throughout the process. We are equally grateful to Dr. Swidiq Mugerwa (Deputy Director General – Research Coordination) for providing oversight and support to the ESS Policy team.

Sincere appreciation is also extended to the NARO Governing Council, Management, and staff, whose valuable contributions enriched the content and practical relevance of these guidelines. These guidelines further benefitted from the insights, feedback, and suggestions of diverse stakeholders who participated in the consultations, ensuring that the guidelines reflect both technical rigor and shared perspectives.

Finally, we extend special recognition to Mr. Basaliza Edigar, Senior Environment and Social Safeguards Officer, for his technical expertise, coordination, and administrative support that significantly facilitated the development of these guidelines.

ACRONYMS

CBD	Convention on Biological Diversity
DRC	Directorate of Research Coordination
DR	Directorate of Research
EBS	Environmental Baseline Surveys
EIA	Environmental Impact Assessment
ESCA s	Environmental and Social Compliance Audits
ESF	Environmental and Social Framework
ESIA	Environmental and Social Impact Assessment
ESAP s	Environmental and Social Action Plans
ESMS	Environmental and Social Management System
ESMP	Environmental and Social Management Plans
ESS	Environmental and Social Safeguards
EPS	Environmental Project Screening
GDD	Gender Disaggregated Data
GHG	Greenhouse Gases
HRD	Human Resource Directorate
ISO	International Organization for Standardization
KPI s	Key Performance Indicators
MDA s	Ministries, Departments and Agencies
NARO	National Agricultural Research Organization
NEMA	National Environment Management Authority
NGO	Non-Governmental Organization
OHS	Occupational Health and Safety
PARI	Public Agricultural Research Institute
PPE	Personal Protective Equipment



SBSTTA Subsidiary Body on Scientific, Technical and Technological Advice

SDGs Sustainable Development Goals

UNFCCC United Nations Framework Convention on Climate Change

ZARDI Zonal Agricultural Research and Development Institute

DEFINITION OF TERMS

Biodiversity: The variety and variability of living organisms in a specific area, including plants, animals, and microorganisms, as well as the ecosystems they occupy.

Climate Change: Long-term changes in temperature, precipitation, and other atmospheric conditions resulting from natural variability or human activities, particularly due to greenhouse gas emissions.

Child labour: According to the National Child Labour Policy for Uganda (2006), child labour refers to work that is mentally, physically, socially, or morally dangerous and harmful to children. It includes activities that interfere with a child's education, compromise their health and safety, and hinder their overall development.

Ecosystem Services: The direct and indirect economic, social and environmental benefits obtained from the correct functioning of ecosystems, including watershed regulation, maintenance of biodiversity and carbon sequestration, for human well-being;

Environment: refers to: (a) the physical factors of the surroundings of human beings, including land, water, air, atmosphere, climate, sound, odour and taste; (b) the biological factors of animals and plants; and (c) the social factors of aesthetics, health, safety and wellbeing of people, and includes human interaction with both the natural and the built environment.

Environmental and Social Assessment: A procedure that ensures that the environmental and social impacts, risks or other concerns of a given project are taken into account in approving a project for implementation.

Environmental and Social Impact Assessment (ESIA): means an analytical process that systematically examines the likely environmental and social impacts of a proposed project,

evaluates alternatives and designs appropriate mitigation, management and monitoring measures, taking into account interrelated socio-economic, cultural and human health impacts, both beneficial and adverse.

Environmental and Social Impact Study: means a study conducted to determine the possible environmental and associated health and socio-economic impacts of a proposed project, to assess the potential alternative options and proposed mitigation measures.

Environmental and Social Safeguards (ESS): Measures and procedures implemented to prevent, mitigate and manage the potential adverse environmental and social impacts associated with agricultural research programs, projects and activities.

Environmental and Social Screening: The procedure of identifying potential environmental and social impacts and risks associated with agricultural research projects, programs and activities.

Environmental Audit: means a systematic, documented, periodic evaluation used to determine how well specified research projects or the research team's EMS, facilities and equipment are performing in conserving the environment and its resources and conform to the requirements of the Act, these Regulations and any other applicable law.

Environmental Impact: The effect or change that an agricultural research project, activity, or action has on the environment, including the air, water, land, ecosystems, and biodiversity.

Environmental Risk Assessment means a systematic process for identifying and estimating the likelihood or probability of an adverse or hazardous outcome or event and its consequence on human health or the environment.

Habitats: Areas where the ecosystem's biological processes occur naturally without human intervention, supporting a diversity of species and ecological functions.

Human Trafficking: According to the Palermo protocol, human trafficking is the recruitment, transportation, transfer, harboring or receipt of persons by means of treat, force or other forms of coercion of abduction, fraud, deception, abuse of power or a position of vulnerability or giving or receiving payments or benefits to achieve the consent of a person having control over another person for the purpose of exploitation (UN General Assembly, 2000).

Indigenous Peoples: Distinct social and cultural groups with historical ties to specific territories and who often maintain unique cultural practices, languages, and social structures. They may be particularly vulnerable to project impacts.

Involuntary Resettlement: The forced displacement of people from their homes, lands, or livelihoods as a result of a project or activity, typically without their full consent.

Laboratory Waste: Any waste generated from laboratory activities, which may include hazardous and non-hazardous substances, chemicals, and biological materials, requiring special handling and disposal.

Laboratory: An agricultural research facility or designated area where scientific research, experiments, testing, analysis, and procedures are conducted.

Marginalized and Vulnerable Groups: Groups that experience social, economic, or political disadvantages, which may include women and girls, children, indigenous people, internally displaced people, refugees, persons with disabilities, the elderly, people living with HIV/AIDS, and ethnic minorities. These groups are often more vulnerable to project impacts.

Mitigation Measures: Actions taken to reduce or eliminate adverse environmental and social impacts resulting from an agricultural research project or activity.

NARO Staff: Refers to any person (s) including mainstream, contract and project staff with contractual obligation of

executing some undertakings for and on-behalf of NARO

PARI: a Public Agricultural Research Institute established under section 28 of the NAR Act.

Pollution Prevention: Measures taken to reduce, control, or eliminate the release of pollutants into the environment, thereby minimizing harm to the air, water, land, and living organisms.

Precautionary Principle: A guiding approach that encourages taking proactive measures to prevent environmental and social harm even in the absence of complete scientific certainty about potential impacts. Predicting environmental or social harm before it actually happens.

Program: NARO's coordinated set of related projects or initiatives undertaken with the aim of achieving specific long-term goals.

Project: The execution of construction or renovation agricultural research work or other developments, installations, schemes, activities or other interventions in the natural surroundings and landscape which may have an impact on human health and the environment.

Project Category A: Projects or programs likely to have significant or adverse environmental or social impacts that are diverse, widespread, or irreversible.

Project Category B: Projects or programs with potential adverse impacts that are less adverse because, fewer in number, smaller in scale, less widespread, reversible or easily mitigated.

Project Category C: Projects and programs with no adverse environmental or have no potential significant social impacts.

Project Investigator: means an individual or organization who designs research projects, and is responsible for its operationalization.

Research teams: refer to organized groups of NARO staff and affiliated partners involved in the planning, execution, supervision, and reporting of research activities across NARO.

Resource Efficiency: The sustainable use of natural resources (such as water, energy, and raw materials) in ways that minimize waste, reduce environmental impacts, and maximize productivity.

Scoping: A process of determining the extent and details of the environmental and social impact study arising from agricultural research projects, programs, and activities.

Social Impact: The effect of an agricultural research project, activity, or action on the well-being, livelihoods, and social structures of individuals, communities, and society at large.

Stakeholders: Individuals, groups, or organizations with a direct or indirect interest or influence in the agricultural research projects or activities, including affected communities, local governments, non-governmental organizations (NGOs), private sector entities, and development partners.

Sustainability: The practice of conducting research activities in a manner that ensures long-term environmental protection, social well-being, and economic viability, without compromising the ability of future generations to meet their needs.

Sustainable Development: Development that meets the needs of the present without compromising the ability of future generations to meet their own needs, balancing economic, social, and environmental objectives.

Technology: Refers to outputs of research both tangible and intangible, including without limitation inventions, discoveries, designs, specifications, developments, methods, modifications, improvements, processes, know-how, show-how, techniques, databases, software, protocols, formulae, trade secrets, management practices and other works

Transboundary Impacts: Environmental, health or social impacts of a proposed project or activity beyond the jurisdiction of Uganda.

ZARDI: A Zonal Agricultural Research and Development Institute established under section 28 of the NAR Act.

1. INTRODUCTION

1.1 Background

Agriculture remains the backbone of Uganda's economy and a cornerstone of livelihoods for the majority of its population. The sector is, however, highly dependent on Environment and Natural Resources (ENRs) such as land, water, forests, climate, and biodiversity which are increasingly under pressure from unsustainable human activities, climate variability, and socio-economic change. These pressures have contributed to challenges including land degradation, biodiversity loss, pollution, declining soil fertility, and vulnerability to climate change. Collectively, these environmental stresses pose risks to agricultural productivity, food security, and the resilience of rural communities.

Alongside environmental challenges, agricultural research and development activities also interact with people from the social dimensions which calls for equity, inclusivity, participation, and accountability. Ensuring that agricultural innovations are socially inclusive and responsive to community needs is critical for achieving sustainable and equitable development. Social concerns such as gender disparities, youth marginalization, and unequal access to resources highlight the need for safeguards that address not only environmental but also social dimensions of research and innovation.

Recognizing this dual challenge, the National Agricultural Research Organization (NARO) as the lead agency for agricultural research in Uganda has taken deliberate steps to integrate environmental and social considerations into its research systems. The Environmental and Social Safeguards (ESS) Policy Guidelines have therefore been developed to provide step-by-step tools and procedures for identifying, managing, monitoring and mainstreaming safeguards into NARO's research programs, projects, and activities.

Whereas the ESS Policy outlines NARO's principles, commitments, and standards for environmental and social responsibility, the ESS Policy Guidelines translate these commitments into practical procedures and tools for day-to-day implementation. They provide step-by-step direction on identifying, assessing, managing, and monitoring environmental and social risks, while promoting best practices that conserve ecosystems, strengthen community wellbeing, and ensure that innovations are socially inclusive and sustainable.

The guidelines are the product of a participatory and consultative process involving NARO staff, governance committees, development partners, and other stakeholders. This inclusive approach ensures that the guidelines are not only technically sound but also aligned with Uganda's national development priorities and international standards for environmental stewardship, climate resilience, and social accountability. Importantly, these guidelines are consistent with and contribute to the implementation of national and international policy and legal frameworks, and regulations that guide sustainable development. By aligning with these frameworks, the guidelines reinforce NARO's institutional mandate to promote research that safeguards natural resources, supports climate resilience, and advances inclusive socio-economic transformation.

By offering both technical measures and ethical direction, these guidelines aim to enhance NARO's capacity to generate agricultural innovations that are environmentally sustainable, socially inclusive, and responsive to the complex challenges facing Uganda's agricultural sector today.

1.2 Overall Objective

The overall objective of the Environmental and Social Safeguards (ESS) Policy Guidelines is to provide practical procedures and actionable tools for integrating environmental and social safeguards into NARO's research programs, projects, and activities.

1.3 Specific Objectives

- 1.3.1 To detail procedure for systematic identification, assessment, and monitoring of environmental and social risks associated with agricultural research activities,
- 1.3.2 To detail procedures that prevent, minimize, or mitigate environmental and social risks throughout the research project cycle.
- 1.3.3 To promote best practices that ensure research innovations are socially inclusive, responsible, and sustainable.

1.4 Application of the guidelines

- 1.4.1 These Environmental and Social Safeguards (ESS) Policy Guidelines shall apply to all research programs, projects, and activities undertaken or supported by the National Agricultural Research Organization (NARO) and stakeholders. They are intended for use by researchers, project staff, and collaborating partners (Research teams) at all stages of the research and technology development cycle.

2. OPERATIONAL PRINCIPLES, STANDARDS, GUIDELINES

2.1 Precautionary Principles

2.1.1 Compliance with the Law

2.1.1.1 Policy Statement 1: NARO shall align all her agricultural research programs, projects and activities with Uganda's legal environmental and social frameworks; and regional and international ESS standards.

2.1.1.2 Strengthen ESS Legal and Policy alignment in research activities

2.1.1.2.1 Guidelines that align to integration of Legal and Policy requirements in research activities

1. NARO shall:

- i) Ensure that research programs, projects and activities are designed and implemented in accordance with the Environmental and social legal requirements, ESS principles, standards and best practices
- ii) Map relevant legal National, Regional and International ESS requirements for agricultural research activities
- iii) Incorporate legal and policy requirements into research planning, budgeting, and implementation frameworks at the earliest stages possible.
- iv) Harmonize research activities with institutional policies, and Safety Guidelines to ensure compliance

2. The ESS Unit shall

- i) Review and compile all relevant national laws, regulations, policies, and guidelines governing environmental and social safeguards applicable to NARO's research activities.
- ii) Benchmark applicable frameworks against regional and international standards to identify best practices, gaps, and opportunities for harmonization in environmental and social safeguards.

- iii) Maintain an inventory of all applicable ESS laws, policies and standards, and ensure this information is readily accessible and shared with research teams
- iv) Establish internal procedures for policy review and updating in line with emerging legal and regulatory reforms
- v) Conduct regular sensitization and training for researchers, project managers, and partners on relevant legal and policy frameworks.

2.1.1.3 Develop a searchable Database for ESS legal and policy requirements applicable to agricultural research

2.1.1.3.1 Guidelines for development of the ESS legal and policy database

1. The ESS unit shall:

- i) Establish and maintain a centralized, digital, and searchable database to capture all relevant Environmental and Social Safeguards (ESS) legal requirements, policies, and standards.
- ii) Compile and input relevant ESS legal and policy documents, summaries, obligations, and applicability notes for easy retrieval by research teams.
- iii) Pre-test the system (database) to ensure reliability
- iv) Ensure the database is user-friendly, accessible to all NARO research teams.
- v) Update ESS policies and procedures to reflect new/amended laws and standards and ensure that such policies cater for emerging ESS issues and are disseminated to research teams.
- vi) Integrate the database within the NARO Environmental and Social Safeguards Information System (NESSIS) developed within the NARO ESMS for ease of access by researcher teams.
- vii) Strengthen NARO's Capacity for ESS legal compliance across NARO research system.

2.1.1.3.1 Strengthen NARO's capacity towards ESS compliance

2.1.1.3.2 Guidelines for strengthening NARO's Capacity for ESS compliance across NARO research system

1. NARO shall:

- i) Build institutional capacity of researchers, project managers, and technical staff on environmental and social safeguards (ESS) principles, legal requirements, and best practices.
- ii) Ensure that training programs are tailored to different roles and responsibilities, including project design, implementation, monitoring, and reporting.
- iii) Support research teams to embed ESS compliance in project proposals, work plans, and operational procedures.

2. The ESS unit shall:

- i) Organize regular training sessions, workshops, and refresher courses for staff, researchers, project teams, contractors, and partners on ESS principles, standards, and best practices.
- ii) Develop and implement standard operating procedures (SOPs) for ESS compliance in research planning, implementation, and reporting.
- iii) Guide institutes to include ESS considerations in annual planning, budgeting, and monitoring frameworks
- iv) Create and disseminate checklists for practical application of ESS requirements in research across research portfolio.
- v) Share the checklists widely with research teams through digital platforms and internal communication channels.
- vi) Encourage knowledge sharing, lessons learned, and documentation of good practices to reinforce continuous improvement in ESS compliance.

3. Research teams shall be required to;

- i) Integrate environmental and social safeguards considerations in project design, planning, and implementation.

- ii) Adapt checklists to reflect the specific type, scale, and risk profile of different research projects and activities.
- iii) Review and update checklists regularly to reflect changes in ESS policy, legal requirements, emerging risks.
- iv) Attend ESS training, awareness sessions, and workshops organized by NARO.
- v) Apply knowledge gained to improve compliance and safeguard integration in their work.

2.1.1.4 Integrate ESS legal requirements in research processes (ES Project screenings, Baseline Surveys (BS), SEAs, ESIAs, ESMPs, ESAPs, ESS principles and Stakeholder consultations)

2.1.1.5 Environmental and Social Project Screening (ESPs) and Baseline Surveys (BS)

2.1.1.5.1 Guidelines for Environmental and Social Project Screening (ESPS) and Baseline Surveys (BS) in research activities

1. NARO shall:

- i) Ensure that all proposed research projects, programs, and activities undergo ESPS to identify potential environmental and social risks at the earliest stage.
- ii) Make ESPS and BS mandatory steps in project planning and proposal development.

2. The ESS Unit shall:

- i) Conduct baseline surveys (BS) to gather essential environmental and social data to guide research teams for informed project design, risk mitigation, and monitoring.
- ii) Assess each research project at the planning stage to determine the appropriate level of environmental and social safeguards review required
- iii) Analyze screening and baseline data to identify potential impacts, sensitivities, and priority issues.
- iv) Provide guidance on necessary mitigation measures, compliance requirements, and risk management strategies before project approval.

- v) Develop project/ activity screening and baseline guide/ template to guide research teams the extent and scale of impact impacts likely from their proposed research activities to ensure compliance with the ESS laws and standards.
 - vi) Build capacity research teams to conduct and interpret ESS screenings and baseline surveys effectively.
3. Research teams shall be required to:
- i) Undertake Screening for specific proposed research projects, and activities at planning phase to determine the nature and scale of the studies of impact required.
 - ii) Use standardized survey tools and methodologies to gather information for baseline environmental and social assessments to establish reference conditions for monitoring and evaluation.
 - iii) Classify projects according to environmental and social risk categories to guide mitigation and management measures
 - iv) Use findings to guide project design, stakeholder engagement, and development of mitigation measures.
 - v) Undertake meaningful consultation with affected communities, local authorities, and partners during screening and baseline surveys.
 - vi) Develop and implement Environmental and Social Management Plans (ESMPs) for their proposed projects and proponents where the magnitude is moderate or high scale impact.
 - vii) Take any other measures to ensure that human health or the environment does not suffer any significant harm or damage as a result of the research undertaking.
 - viii) Maintain a digital repository of all ESS screening reports and baseline data on their projects for routine improvements.

2.1.1.6 Undertake Strategic Environment Assessments (SEAs) in research planning

2.1.1.6.1 Guidelines for Strategic Environment Assessments (SEAs) in research activities

1. At institutional level, NARO shall ensure that all policies, plans and programs developed under the organization, undergo SEA to ensure ESS considerations are embedded at the earliest stages of decision making. The SEA shall:
 - i) Assess cumulative and long-term environmental and social impacts of proposed research strategies and programs.
 - ii) Identify potential trade-offs, alternatives, and opportunities to enhance sustainability and social inclusivity.
 - iii) Inform the development of Environmental and Social Management Plans (ESMPs) and Action Plans (ESAPs) for research initiatives.
 - iv) Guide strategic policy and program decisions to ensure alignment with ESS principles and standards.
2. SEA shall be applied particularly for strategic initiatives, actions likely to have significant changes or cumulative/sector wide impacts on the environment and society or that may alter the existing characteristics of environment or society such as infrastructure masterplans, agricultural research strategies and large-scale program designs
3. A strategic environmental assessment (SEA) shall be undertaken for NARO policies, plans and programmes being initiated or reviewed, which are likely to have a significant impact on human health or the environment.
4. The PARI or user department responsible for the policy, plan or programme referred to in subsection (2) shall, in consultation with the ESS unit, be responsible for carrying out a strategic environmental assessment in a manner prescribed by regulations.
5. NARO shall make SEA a mandatory step in strategic program or policy design, especially for multi-project initiatives or activities with potential significant impacts

6. The ESS unit shall;

- i) Develop screening tools to determine the relevance and depth of the SEA on such research plans, programs and activities
- ii) Identify research policies, plans, and programs that require SEA based on risk, scale and potential cumulative as well as in line with national environmental regulations and international best practices and include them in database specified in (policy 1 guideline 3)
- iii) Develop SEA procedures tailored to NARO's research context.
- iv) Collaborate with relevant regulatory agencies to ensure compliance with national SEA requirements.
- v) Periodically review, document and disseminate lessons learned from SEAs reviews to strengthen institutional planning and safeguard performance
- vi) Notwithstanding, research teams shall be required to;
 - a) Actively participate in SEAs conducted for programs, policies, or projects relevant to their research.
 - b) Provide necessary project data, technical input, and context for baseline and impact assessments.
 - c) Adopt SEA guidelines tailored to NARO's research context.
 - d) Apply screening tools to determine the relevance and depth of the SEA tailored to their specific research plans, programs and activities.
 - e) Use SEA findings to inform research prioritization, resource allocation, and risk management.
 - f) Incorporate SEA recommendations, mitigation measures, and alternatives into project design, work plans.
 - g) Provide feedback to the ESS Unit on SEA tools, procedures, and practical challenges to enhance the effectiveness of future SEAs.

2.1.1.7 Undertake Environmental and Social Impact Assessments (ESIA) for agricultural research facilities

2.1.1.7.1 Guidelines for Environmental and Social Impact Assessments (ESIA) for Agricultural Research Facilities

1. NARO shall
 - i) Ensure that all proposed, ongoing, and expanded agricultural research facilities projects and activities under go environmental and social screening to determine the appropriate level of assessment.
 - ii) Make ESIA a mandatory step before final approval, funding, or commencement of any mega construction or operations with likely significant impacts
2. The ESS unit shall:
 - i) Identify, map and categorize agricultural research facilities and infrastructure development projects or facilities that may trigger ESIA requirements
 - ii) Develop internal procedures for initiating and undertaking managing ESIA processes in accordance with national requirements and ESS policy
 - iii) Prepare and maintain Terms of Reference (ToRs) for ESIA's that reflect NARO's research projects and activities with specific environmental and social implications
 - iv) Engage qualified and accredited environmental practitioners to conduct ESIA's for all new or modified research facilities with potential adverse impacts
 - v) Ensure effective stakeholder consultation and community participation during ESIA preparation, review, and implementation at a very stage of development process.
 - vi) Integrate ESIA findings and Environmental and Social Management Plans (ESMPs) into the design, construction, and operation levels of agricultural research facilities.
 - vii) Ensure costing and implementation of the mitigation actions identified in the ESMP framework.
 - viii) Ensure that the decommissioning framework of the facilities is implemented in accordance with applicable laws.

- ix) Build internal capacity within NARO to understand, supervise, and apply ESIA findings in facility planning and management.
- 3. The categorization in action 2 guideline (a) shall consider scale, location sensitivity, potential impacts on communities, biodiversity and ecosystems, processes, methodology and any other factor that may lead cumulative impacts
- 4. The Research team or facility management shall submit a proposal for a new facility, expansion, or major operational change to the ESS Unit
- 5. ESS Unit shall review and determine the extent and need for an ESIA based on factors defined in (iii).
- 6. The ESS unit in consultation with the project research team, shall assess a research project or activity likely to have significant adverse impacts on human health or the environment and such shall be subjected to an environmental and social impact assessment.
- 7. For the case of agricultural research infrastructure developments and high-risk research activities, ESIA shall be a prerequisite for approval by relevant authority prior works.
- 8. In circumstances where the research team/individual does not initiate the ESIA process specified in (2) prior project implementation, and that such project or activity significantly causes environmental or social damage, shall be required to restore the degraded environment as far as practicable to its immediate condition prior to the damage.
- 9. In the event that the required level of the ESIA is uncertain due to inconsistencies in project scale, the research programs, projects or activities shall be categorized as A, B, or C basing on:
 - i) The nature and scale of the project or activity;
 - ii) The descriptions of the nature and character of the surrounding environment.
 - iii) The documented impacts of similar projects or activities previously undertaken by NARO; and

- iv) Anticipated magnitude of the environmental, social and cultural impacts of the proposed research project or activity.
 - v) Evaluation of Impacts shall be ranked based on similarity, sensitivity, magnitude, and scope.
10. ESIA shall be conducted for any high risk “category A and B” rated research projects and activities as determined by screening findings and shall be subjected for further review and approval by relevant authorities.
 11. The ESIA shall be conducted by a registered environmental practitioners licensed by relevant authorities.
 12. The ESS unit shall develop the ESMP and EMMP templates to guide the implementation, monitoring and reporting process
 13. The ESS Unit working the research teams shall continuously monitor all moderate to high-risk projects during implementation and ensure corrective actions are implemented.

2.1.1.8 Develop and implement Environmental and Social Management Plans (ESMPs) for agricultural research facilities

2.1.1.8.1 Guidelines that align to development and implementation of Environmental and Social Management Plans (ESMPs) for agricultural research facilities

1. NARO shall:
 - i) Ensure that Environmental and Social Management Plans (ESMPs) are systematically developed and implemented for all research projects, programs, and facilities with potential environmental and social impacts.
 - ii) Ensure that ESMPs shall be a mandatory step during project design and prior to implementation.
 - iii) ESMPs shall be developed as part of project design and planning processes, following completion of Environmental and Social Impact Assessments (ESIAs) or screenings.
 - iv) Each ESMP shall clearly outline mitigation, monitoring, and institutional responsibilities for managing identified environmental or social risks.

2. Every ESMP shall include;
 - i) Identified environmental and social impacts and corresponding mitigation measures.
 - ii) Specific actions, timelines, and responsible persons or units with roles and responsibilities
 - iii) Environmental and social performance indicators for tracking progress.
 - iv) Monitoring and reporting arrangements, including frequency and format.
 - v) Budget estimates for implementation and monitoring of mitigation measures
3. The ES Unit shall lead the development, review, and quality assurance of ESMPs; ensure alignment with national environmental regulations and NARO's ESS Policy
4. The ESS Unit shall develop ESMP template to guide their development process.
5. Research teams shall be required to develop ESMPs tailored to their project contexts using the template in 3 above for every project or research activity that has undergone ESIA and it shall form an integral part of the project implementation plan.
6. Research teams shall apply ESMPs to projects, facilities, and programs identified as medium or high-risk during ESPS, ESIA, or SEAs.
7. ESMPs for all high-risk (Category A and B) projects shall be reviewed and approved by NARO management and relevant regulatory authorities. Approved ESMPs shall be disclosed to stakeholders and affected communities in an accessible format.
8. Research teams shall ensure that ESMP measures are incorporated into technical designs, budgets and contracts for research projects and activities to ensure enforceability during execution.
9. Research teams shall be responsible for implementing the

ESMPs and corrective actions where non-compliance or unforeseen impacts occur.

10. The ESS Unit shall conduct regular field inspections and audits to assess compliance and support continuous improvement.
11. Where there is cases of non-conformity, specific project teams shall submit periodic ESMP progress reports detailing compliance status, challenges, and corrective measures taken.
12. ESMPs shall be treated as living documents and reviewed periodically or when project scope, design, or context changes. Revisions shall be validated by the ESS Unit and communicated to responsible research teams.
13. ESS Unit shall enforce the implementation of the ESMPs as outlined in the research project proposals
14. Any deviation from approved ESMP provisions shall trigger immediate corrective actions under the supervision of the ESS Unit.
15. Persistent non-compliance shall be subject to administrative and disciplinary procedures as stipulated in NARO's Human Resource Manual and ESS Policy.

2.1.1.9 Ensure inclusive stakeholder Consultation during research processes

2.1.1.9.1 Guidelines that align to inclusive stakeholder consultation during Research processes

1. During research development processes, NARO shall ensure meaningful, inclusive, and transparent stakeholder consultation throughout the research and innovation process.
2. Research teams shall conduct Stakeholder consultation at the earliest stages of research planning project design and prioritization, to identify concerns, expectations, and potential social or environmental impacts.
3. Research teams, in collaboration with the ESS Unit, shall identify all relevant stakeholders likely to affect or to be affected by their research projects, including;
 - i) Local communities likely to be affected by research activities.

- ii) Vulnerable and marginalized groups.
 - iii) Government agencies and regulatory authorities.
 - iv) Private sector actors where applicable.
4. Research teams in undertaking research development processes, shall be required to engage with stakeholder specified in guideline (3) at every stage of research development.
 5. Research teams shall be required to adopt appropriate consultation methods based on stakeholder type and context
 6. In undertaking consultations under guideline (1), the research teams shall:
 - i) Build and maintain constructive relationships with stakeholders particularly, persons likely to be affected by the research project or activities.
 - ii) Assess level of stakeholder interests and support for the research activities.
 - iii) Provide means for effective and inclusive engagement with project affected persons and communities throughout the project life cycle.
 - iv) Deliver information that meets needs and aspirations of all for common good.
 7. To ensure inclusive consultations research teams shall:
 - i) Choose the mode of consultation taking into account the nature and location of the research project and key issues to be consulted on.
 - ii) Hold meetings with relevant stakeholders, communities who are likely to be affected by the research projects and activities to explain the projects, its likely benefits, likely negative impacts, and proposed mitigation actions, and receive their oral or written views:
 - iii) Ensure that the comments received during consultations are recorded, made publicly available and taken into account during the research development process.
 - iv) Ensure that all consultations properly documented, including attendance, issues raised, responses provided, and actions agreed upon.

8. Research teams shall integrate stakeholder inputs into project design, implementation plans, mitigation measures, and monitoring frameworks.
9. The ESS unit shall build the capacity of research teams and community representatives to engage effectively, ensuring consultations are informed, participatory, and culturally sensitive.

2.1.1.10 Integrate Environment and Social Principles in research processes

2.1.1.10.1 Guidelines that align to integration of Environment and Social Principles in research processes

1. NARO shall ensure that research teams integrate core environmental and social principles into all stages of the research and innovation process to ensure sustainable, equitable, and socially responsible outcomes
2. To ensure implementation of the principles, NARO shall ensure that all research programs, projects, and activities are designed in a manner to;
 - i) Minimize negative environmental and social impacts
 - ii) Promote sustainable use of natural resources and biodiversity conservation for the benefit of both present and future generations.
 - iii) Ensure equitable participation of people, in the development of research policies, plans and programmes and activities.
 - iv) Ensure restoration of lost or damaged ecosystems on NARO land where possible and reversing the degradation of the environment and natural resources.
 - v) Ensure practices that prevent or reduce the generation of agricultural research waste from research processes or products and consumption patterns.
 - vi) Ensure that Environmental and social principles are considered in all stages of research, including; concept development and project design, implementation, monitoring, and reporting dissemination and adoption.

- vii) Ensure that lessons learned assessments, audits, and stakeholder feedback be used to improve the ongoing and future research programs.

2.1.1.11 Develop and implement Environment and Social Action Plans (ESAPs)

2.1.1.11.1 Guidelines that align to development and implementation of Environment and Social Action Plans (ESAPs) for research projects and activities

1. NARO shall develop Environmental and Social Action Plans (ESAPs) for all research programs, projects, and activities where environmental or social risks are expected.
2. The ESS Unit shall lead the development process of Environmental and Social Action Plan (ESAP) in consultation with research teams.
3. The NARO Environment and social Action Plan made under guideline (1) shall:
 - i) take into account PARI and specific project action plans including off budget projects.
 - ii) outline ESS objectives, targets, and indicators to guide implementation and measure progress.
 - iii) define roles, responsibilities and timelines for implementation across NARO institutes, programs and projects.
 - iv) Reviewed and updated periodically (annually) to remain relevant to evolving institutional priorities and emerging risks.
4. The ESAPs shall translate findings from Environmental and Social Impact Assessments (ESIAs), project screenings, and stakeholder consultations into actionable steps for mitigating risks, enhancing benefits, and ensuring compliance with NARO's ESS Policy
5. Each ESAP template developed under guideline (2) shall include:
 - i) Identified environmental and social risks and corresponding mitigation measures.

- ii) Specific actions, responsible units or personnel, and timelines for implementation.
 - iii) Monitoring and evaluation indicators to track progress and effectiveness.
 - iv) Budget allocations for implementation and monitoring activities.
 - v) Plans for stakeholder engagement, communication, and grievance management.
- 6.
7. Research teams or respective departments, units and PARIs shall prepare environmental and social action plans (ESAP) relevant to their sectors in conformity with the ESAP developed in guideline (1).
8. The specific project action plans established in guideline (vii) shall be reviewed whenever necessary, or when project scope or context changes or when there is emerging environmental and social issues to that context.

2.1.2 Accountability

2.1.2.1 Policy Statement 2: NARO shall ensure that individuals, teams, and partners are accountable to environmental and social safeguard measures in research programs, projects and activities.

2.1.2.2 Define Accountability Structures (Roles and responsibilities)

2.1.2.2.1 Guidelines aligning to defining Accountability structures to Environmental and Social Safeguards

1. NARO shall define roles, responsibilities and accountability structures for ESS operations across her research system.
2. NARO shall;
 - i) Assign ESS responsibilities to individuals, teams, and partners at all levels to ensure ESS accountability at every stage of research development
 - ii) Integrate ESS roles into job descriptions, project charters,

and partnership agreements for different research teams to ensure accountability for people to ESS actions.

iii) Establish clear lines of accountability within the organizational and project structures to ensure clear reporting and decision-making on ESS matters

iv) Include ESS clauses in MoUs, contracts, partnership agreements, and project proposals to ensure inclusivity.

3. Research teams shall actively integrate ESS considerations into the design, planning and implementation of all research programs, projects and activities to ensure accountability.

2.1.2.3 Develop and define indicators for ESS Accountability

2.1.2.3.1 Guidelines aligning to Development and defining indicators for ESS Accountability

1. The ESS unit shall develop and define measurable ESS indicators grounded on inclusivity and sustainability principles ensuring they reflect both environmental and social performance standards.

2. Research teams shall incorporate the ESS indicators specified in (i) in work plans, performance reports and relevant project documents to facilitate monitoring and accountability.

3. ESS Unit shall document ESS related activities and provide quarterly reports on environmental and social performance across research programs, projects and activities.

4. ESS Unit shall facilitate training for research teams on their roles, responsibilities, and obligations regarding ESS measures for effective implementation.

5. PARIs, Directorates and research teams, through the ESS focal point persons, shall report ESS activities at their institutes or respective areas of research operation on quarterly basis.

2.1.3 Transparency

2.1.3.1 Policy Statement 3: NARO shall ensure all processes, decisions and actions related to the implementation of the ESS

policy are conducted in a transparent manner.

2.1.3.2 Promote transparency in Agricultural Research operations

2.1.3.2.1 Guidelines aligning with promotion of Transparency in Agricultural Research operations

1. NARO shall:

- i) Ensure that ESS considerations are transparently integrated into all research programs, projects, and activities.
- ii) Ensure all ESS-related decisions, processes, and outcomes are communicated openly to stakeholders in a timely, accurate, and accessible manner.
- iii) Standardize decision-making and operational procedures for ESS implementation across NARO programs and projects.
- iv) Ensure clear documentation of all ESS-related processes, including project approvals, risk assessments, mitigation plans, and compliance audits.
- v) Make criteria for ESS approvals and resource allocation publicly accessible within the organization to enhance accountability.
- vi) promote open communication and dissemination of information to strengthen ESS understanding and compliance.
- vii) Ensure information is accessible in formats appropriate to different stakeholder
- viii) Organize periodic forums, seminars, and briefings

2. ESS shall:

- i) Maintain a central ESS knowledge repository accessible research teams
- ii) Use multiple communication platforms such as workshops, community meetings, printed materials, online portals, and social media to disseminate ESS information.
- iii) Disseminate ESS guidelines, procedures, and decisions and updates via NARO's website, circulars, and internal platforms.

- iv) Conducting regular briefings, workshops, and stakeholder consultations to share ESS progress, lessons and decisions.

2.1.3.3 Strengthen Stakeholder Engagement in Research processes

2.1.3.3.1 Guidelines aligning to Stakeholder Engagement in Research processes

1. NARO shall actively involve stakeholders in ESS processes to ensure inclusivity and accountability.
2. The ESS working with respective research teams shall;
 - i) Engage communities, research partners, and regulatory agencies in monitoring ESS implementation and decisions
 - ii) Facilitate participatory mechanisms that allow stakeholders to provide input, feedback, and recommendations on ESS practices
 - iii) Incorporate stakeholder feedback into decision-making, project planning, and mitigation strategies to enhance the relevance and effectiveness of ESS interventions.
 - iv) Maintain records and periodic reports accessible to internal and external stakeholders
 - v) Incorporate stakeholder suggestions into future ESS decision-making processes
3. The ESS shall support research teams to ensure consultative processes are undertaken during project initiation, design, implementation, and decommission of research projects, and activities to ensure openness.
4. Research teams shall regularly conduct site, meetings with the relevant social groups to ensure consistency and participation.

2.2 Social Inclusivity Principles

2.2.1 Access and Equity to research innovations

2.2.1.1 Policy Statement 4: NARO shall ensure fair, inclusive and equitable access to benefits of research innovations, products and services.

2.2.1.2 Promote inclusive research design during technology development processes

2.2.1.2.1 Guidelines that align to promotion of inclusive research design.

NARO shall:

1. Require research teams to incorporate gender, social inclusion, and equity considerations into project planning and research design.
2. Encourage stakeholder involvement in defining research objectives, identifying needs, and co-creating technology solutions
3. Research teams with support from ESS unit shall
 - i) Ensure technology development processes in agricultural research incorporate diverse perspectives
 - ii) develop an inclusive engagement plan for each research technology development project.
 - iii) Map internal and external stakeholders relevant to each technology development project
 - iv) Identify and prioritize marginalized and vulnerable groups in research target areas.
 - v) Use participatory approaches to ensure beneficiaries have a voice in technology development and dissemination.
 - vi) Ensure that participatory methods are used to capture the needs and priorities of different social groups.

2.2.1.3 Establish transparent benefit sharing mechanisms in research development processes

2.2.1.3.1 Guidelines that align to transparent benefit sharing of research outputs

1. NARO shall develop and operationalize policies and guidelines that promote equitable distribution of agricultural research benefits across all categories of stakeholders.
2. These guidelines shall define principles, procedures, and mechanisms for ensuring fairness and inclusivity in access to research outputs

3. Research teams shall adopt and consistently apply the approved equity and inclusion guidelines throughout the research development cycle from design to dissemination to ensure that benefits are accessible to all target groups
4. The ESS unit shall establish transparent and objective criteria for identifying and selecting beneficiaries emphasize inclusivity, fairness, and responsiveness to local contexts
5. The ESS Unit shall guide research teams to assess and address the distinct needs, barriers, and circumstances of different population groups during project design and implementation.
6. Research teams shall apply inclusive research design principles to ensure that all individuals, regardless of gender, age, socio-economic status, or geographical location, have equitable opportunities to participate in, access, and benefit from agricultural research innovations, products, and services.
7. Research teams shall ensure that testing and validation of research outputs involve diverse social groups to confirm suitability and accessibility.

2.2.1.4 Enhance Accessibility and fairness to research innovations

2.2.1.4.1 Guidelines that align to accessibility and fairness to research technologies, products and services

1. NARO shall ensure that relevant research innovation products and services are fairly distributed across the relevant agro-ecological zones of Uganda.
2. Research teams shall be required to conduct assessments to identify social, economic, geographic, gender-based, and disability-related barriers that may hinder different groups from accessing research benefits.
3. In certain circumstances, research teams shall organize community demonstrations, pilot trials, and field visits at all levels to improve uptake.

2.2.1.5 Strengthen approaches and partnerships for inclusive access to research Outputs

2.2.1.5.1 Guidelines that align to Strengthening partnerships for inclusive access to research Outputs

1. NARO shall work in close collaboration with local governments, extension services, civil society organizations (CSOs), and farmer groups to ensure that agricultural research outputs and innovations reach a broad and diverse range of beneficiaries at community level.
2. NARO shall encourage research teams to develop and implement joint initiatives with non-governmental organizations (NGOs) and development partners aimed at addressing the specific needs of vulnerable and marginalized populations, including women, youth, and persons with disabilities.
3. NARO shall engage private sector actors to facilitate the scaling-up, commercialization, and dissemination of agricultural technologies, ensuring that market-driven approaches maintain fairness, inclusivity, and equitable access to innovations and services.

2.2.1.6 Build Capacity of research teams to implement accessibility and fairness in research operations

2.2.1.7 Guidelines that align to building Capacity of research teams to ensure accessibility and fairness in research undertakings

1. NARO shall build awareness and capacity of research teams to enhance accessibility and fairness in access to research outputs, technologies, and innovations.
2. The ESS unit working relevant departments shall
 - i) Conduct awareness campaigns on the availability and use of research outputs.
 - ii) Train communities, farmer groups, and extension staff on adoption of innovations and access procedures.
 - iii) Promote capacity building in marginalized groups to enhance uptake and sustainable use of technologies.
3. The ESS Unit shall develop data collection tools that facilitate research personnel collect information that captures diverse needs of different social classes to be adopted by research teams.

4. ESS Unit shall develop, define, and disseminate inclusivity indicators to ensure routine participation of people including vulnerable groups in research project planning and design.
5. Research teams shall be required to incorporate the indicators into research trials, field demonstrations, and decision-making processes to ensure openness.
6. The ESS unit working with the Directorate of internal Audit shall conduct periodic assessments to evaluate whether benefits are reaching all target groups, including women, youth, and marginalized communities

2.2.2 Consideration of Marginalized and Vulnerable Groups, Gender Equality, and Women's Empowerment.

2.2.2.1 Policy Statement 5: NARO shall minimize unfavorable impacts on marginalized, vulnerable and special interest groups (SIGs) in regard to access, use, participation, or benefit from agricultural research technologies, products, services, projects and programs.

2.2.2.2 Conduct Social Impact Assessment (SIAs) for research activities with likely adverse impacts on Marginalized and SIGs

2.2.2.3 Identification and mapping of marginalized and special interest groups (SIGs).

2.2.2.3.1 Guidelines that align to identification and mapping of marginalized and special interest groups during SIAs.

1. Before undertaking any research innovations, Research teams shall:
 - i) be required to conduct baseline assessments to identify marginalized, vulnerable, and special interest groups for inclusion in research development processes.
 - ii) Ensure that vulnerability be determined using defined criteria such as socio-economic status, gender, age, physical ability, ethnicity, geographic location, and displacement status.
 - iii) Ensure all baseline assessments utilize Gender-Disaggregated Data (GDD) to ensure equitable

representation and consideration of diverse social categories.

- iv) Ensure that research activities implementations are based on Gender Disaggregated Data (GDD) to cover multiple needs of people.
- v) Ensure that GDD be collected using standardized templates provided in the annexes.
- vi) Identify the type of research or project activities that require participation of marginalized or special interest groups.
- vii) Integrate social risk and impact assessments into project planning and design to identify potential adverse effects on vulnerable and marginalized populations and propose suitable preventive or mitigation measures.
- viii) Employ findings from baseline studies and stakeholder mapping to deepen understanding of community vulnerabilities, social dynamics, and potential risks associated with research activities.

2.2.2.4 Inclusive Participation of Marginalized and SIGs in Research Project Planning and Design

2.2.2.4.1 Guidelines that align to Inclusive Participation for Marginalized and SIGs in Research Project Planning and Design

1. NARO shall ensure that all agricultural research programs, projects, and activities are designed and implemented through inclusive and participatory approaches that actively engage marginalized, vulnerable, and special interest groups in decision-making, planning, and evaluation processes.
2. Research teams shall ensure that marginalized, vulnerable, and special interest groups are meaningfully involved in all stages of research planning, decision-making, implementation, and evaluation to promote inclusivity and equity.
3. Research teams shall apply participatory methods that allow diverse groups to express their needs, priorities, and concerns.
4. These participatory approaches shall be culturally appropriate,

gender-sensitive, and inclusive of all social categories

5. NARO shall require research teams to integrate the identified needs and priorities of marginalized and vulnerable groups into the design of agricultural research programs, technologies, and innovations to ensure relevance and accessibility
6. Research teams shall obtain free, prior, and informed consent from affected or participating communities before the commencement of any research innovations or activities, ensuring respect for their rights, knowledge systems, and decision-making autonomy
7. Research teams shall incorporate targeted mitigation and enhancement strategies in project design to minimize adverse environmental and social impacts while ensuring that interventions are inclusive, equitable, and sustainable
8. The ESS Unit and research teams shall monitor the level and quality of participation throughout the research cycle to ensure meaningful engagement, equitable representation, and accountability to all stakeholder groups.

2.2.2.5 Strengthen awareness to research teams for inclusion of marginalized and vulnerable people in research processes

2.2.2.5.1 Guidelines that align to awareness for research teams on inclusion of marginalized and vulnerable people in research processes

1. ESS shall conduct periodic the capacity needs assessments of research teams for effective integration ESS principles into research planning, implementation, and evaluation processes.
2. The ESS unit shall develop a structured capacity-building program that addresses key ESS themes.
3. The ESS Unit shall organize regular training and sensitization programs for research teams to enhance understanding and application of inclusive practices, equity principles, and social safeguard requirements across all research activities.
4. The ESS shall develop tailored training modules, toolkits, and reference manuals on ESS topics.
5. Research teams shall use the knowledge obtained to build the capacity of vulnerable and marginalized groups to effectively

access, adopt, and utilize research outputs, technologies, and services, thereby strengthening their participation in and benefits from agricultural innovation.

6. The ESS Unit shall mainstream gender-sensitive and disability-inclusive approaches across all research programs and projects to ensure that no individual or group is excluded from participation or benefit.

2.2.3 Protection of Human Rights

2.2.3.1 Policy Statement 6: NARO shall ensure that all individuals, regardless of gender, age, ethnicity, disability, or socio-economic status, have equal rights to actively participate, access and benefit from agricultural research innovation.

2.2.3.2 Maintain Human Dignity in Research Processes

2.2.3.2.1 Guidelines that align to maintenance of Human Dignity in research activities

1. Research teams shall be required to recognize the value of all persons ensuring that their autonomy, safety, and well-being are respected at all stages of a research project development and implementation.
2. In the event that research work may delay due to more time spent in consultations for the human good, research teams shall consider the following:
 - i) Informed consent shall be sought for during initiation of research projects and activities and may be applied up to pre- operational phases of the project or activity.
 - ii) Avoid practices that are likely to exploit, coerce, or expose individuals to harm.
 - iii) Ensure corrective actions are undertaken throughout the research development cycle for any residual effect

2.2.3.3 Apply Non-Discrimination in the research and innovation value chain

2.2.3.3.1 Guidelines that align to Non-Discrimination in research and innovation value chain

1. To ensure Nondiscrimination in research processes, NARO shall require research teams to:
 - i) Uphold zero-tolerance against unsafe practices, or unfair treatment, based on characteristics like sex, age, ethnicity, religion, disability, or socio-economic status during research activities.
 - ii) Conduct stakeholder mapping to identify underrepresented groups and ensure their inclusion.
 - iii) Establish codes of conduct, and anti-discrimination procedures for research teams in accordance with the HR manual.
 - iv) The ESS unit shall conduct training on equity, diversity, inclusion, and human rights for research teams.
 - v) ESS Unit shall ensure research teams apply equal rights to individuals to participate and benefit from research innovations, products and services.
 - vi) ESS Unit shall establish indicators to track participation, access and benefits using social demographic characteristics indicators
 - vii) Research teams shall use the monitoring indicators and results to adapt research practices, dissemination strategies, and capacity-building programs to improve equitable participation

2.2.4 Labor Laws and Working Conditions

2.2.4.1 Policy Statement 7: NARO shall protect the rights of workers, promote fair treatment, and create safe, healthy and supportive work environments for her employees and partners engaged in research activities.

2.2.4.2 Create and implement safe Working Environment in research operations

2.2.4.2.1 Guidelines that align to safe working conditions in research activities

1. NARO shall ensure safe and functional workspaces in accordance with Human Resource Manual (HRM).

- i) PARIs and NARO Secretariat shall maintain clean, ventilated, and ergonomically appropriate office, laboratory environments, and gender responsive sanitation facilities in accordance with guideline (1).
 - ii) PARIs and project or field personnel shall ensure field stations have clean water, shaded rest areas, waste bins and gender responsive sanitary units.
 - iii) Specific short-term research projects implemented within PARIs or field sites, especially those that may frequently shift locations or operate far from established sanitary facilities, shall provide mobile sanitary facilities for their staff to ensure proper hygiene and sanitation.
2. NARO shall promote physical well-being through flexible work arrangements, wellness programs, and counseling services in accordance with the HR Manual.
3. NARO shall adhere to labor working standards regarding working hours, overtime, and rest periods in accordance with HR Manual.
4. NARO shall ensure work environment is free from discrimination, harassment, or abuse based on gender, age, disability, ethnicity, or socio-economic background in accordance with HR manual.
5. Working with Human Resource Directorate, the ESS unit shall on quarterly basis, monitor workforce diversity and equity to address any systemic disparities

2.2.4.3 Mainstream ESS considerations into the design of Agricultural Research Infrastructures

2.2.4.3.1 Guidelines that align to mainstreaming ESS considerations into Design of Agricultural Research Infrastructure

1. ESS Unit working with Directorate of Cooperate Services (DCS) (Engineering Unit) shall ensure that:
 - i) All research infrastructure (laboratories, offices, greenhouses, field stations, stores, irrigation systems among others) are designed and maintained in compliance with laws as specified in the ESS policy.

- ii) Conduct routine inspections and monitoring to ensure facilities meet environmental, health and safety standards.
- iii) Design infrastructures with renewable energy and water systems such as solar energy and rain water harvesting technologies.
- iv) Research facilities and auxiliary components are designed with ergonomic features, appropriate seating, lighting, and space layout to reduce strain and promote staff well-being in accordance with the HR manual.
- v) Research facilities are accessible to persons with disabilities, including ramps, accessible restrooms, supportive handrails, spaces for breastfeeding mothers, and proper signage.
- vi) Research facilities have adequate, gender-sensitive clean toilets, hand-washing stations, and changing areas for both men and women.
- vii) Research facilities install lightning arrestors, fire extinguishers, smoke detectors, emergency exits, evacuation maps, and first aid kits, and emergency evacuation points in all facilities.
- viii) Research plots and demonstration farms are well-maintained with fencing, signage, and pathways to reduce physical risks by research teams.

2.2.4.4 Apply Comprehensive Occupational Health and Safety Standards across research operations

2.2.4.4.1 Guidelines that align to application of Occupational Health and Safety Standards across research activities

1. NARO shall develop and enforce occupational health and safety (OHS) guidelines for all research facilities and activities
2. NARO shall require research teams to conduct occupational safety risk assessments in laboratories, research farms, and field work settings.
3. ESS Unit shall develop standardized templates and checklists for risk identification and evaluation tailored to specific facilities.

4. Research teams shall consistently utilize the templates as standard guidance to risks identification tailored to their respective research activities
5. Research teams shall routinely apply Occupational Health and Safety (OHS) measures in all their daily operations to ensure a safe and healthy working environment

2.2.4.5 Provision of and Use of Personal Protective Equipment (PPE) during research activities

2.2.4.5.1 Guidelines that align to Provision and Use of Personal Protective Equipment (PPE)

1. NARO shall provide Personal Protective Equipment (PPE) to research teams during execution of research work.
2. Research personnel shall be required to routinely use appropriate PPEs during the execution of research work.
3. The ESS unit shall develop operating procedures for use of PPEs which research personnel shall adhere to at all times of research operations
4. ESS Unit shall enforce strict use of PPEs during research operations to safeguard the health of researchers and maintain compliance with standards
5. The ESS unit in collaboration with PARIs, shall train research teams on rights, responsibilities, safety practices, and ESS compliance on quarterly basis.
6. ESS Unit shall encourage and promote a culture of safety, well-being, and respect within research teams and partner institutions.
7. The ESS Unit shall establish channels for reporting unsafe conditions, grievances, or rights violations confidentially and safely through ESMS.

2.2.4.6 Application of Standard Operating Procedures (SOPs) in research facilities

2.2.4.6.1 Guidelines that align to implementation of Standard Operating Procedures (SOPs) in research facilities

1. The ESS Unit, in consultation with relevant Directorates, Departments OR PARIs, shall develop Standard Operating

Procedures (SOPs) to guide environmental and social management within NARO's research operational facilities.

2. Research teams or specific personnel in charge of such facilities shall use these organization-wide SOPs as a framework to develop site-specific SOPs tailored to their respective research activities and operational contexts.
3. The ESS shall develop a formal circular to be signed by the Director General or Deputy Director General or their designated representative, instructing all PARIs to develop, adopt, and implement site-specific Standard Operating Procedures (SOPs) tailored to their research context to ensure effective environmental and social management within their research facilities.
4. Each research facility shall develop and implement internal operational procedures which must be documented and displayed within the facility at all times to guide staff, students and visitors in safe and compliant operations.
5. The ESS unit shall develop Standard tools or templates and disseminate to research teams.

2.2.4.7 Implement Incident Reporting mechanisms in Research Processes

2.2.4.7.1 Guidelines that align to reporting incidents during research operations

1. The ESS unit shall develop and disseminate standardized incident reporting templates to guide research teams in documenting and responding to ESS incidents effectively
2. Research teams shall be required to maintain incident registers at workstations and project sites.
3. The registers shall maintain an up-to-date inventory of all incidents, accurately recorded and accessible at all times
4. The ESS focal person at PARIs shall report incidents to the ESS unit using the incident report forms provided in (1).
5. The ESS unit, working with the focal persons at PARIs shall ensure corrective actions are undertaken for cumulative adverse incidents

6. ESS focal point persons shall establish and maintain a comprehensive register of environmental and social incidents at the PARI level, documenting all occurrences, actions taken, and outcomes to support monitoring, reporting, and corrective measures
7. The ESS unit shall maintain a central register for incidents at the Secretariat.
8. At project level, each project shall maintain a dedicated Environmental and Social Incident Register to systematically record, track, and manage all incidents that may affect people, communities, or the environment.
 - i) The Project Manager or designated ESS focal person at Institute, site or project shall be responsible for maintaining the incident register.
 - ii) All project staff, contractors, and partners shall report incidents promptly to the focal person.
 - iii) The incidents shall, among others include;
 - a) Accidents or injuries involving staff, partners, or community members, animals or the environment.
 - b) Environmental damages such as pollution, habitat disruption, or resource depletion.
 - c) Social grievances, complaints, or conflicts arising from project activities.
 - d) Non-compliance with ESS procedures, SOPs or mitigation measures.
 - iv) Each incident entry shall include
 - a) Parties involved or affected
 - b) Detailed description of the incident.
 - c) Follow-up or corrective measures implemented
 - d) Status of resolution and responsible personnel
 - v) The incident register shall be reviewed regularly by the project management team and the ESS Unit.
 - a) The Focal person shall submit the Quarterly summaries of incidents, trends, and lessons learned to the ESS Unit for institutional reporting and integration into institutional risk management and mitigation Matrices.

2.2.4.8 Develop and implement Emergency Response and Preparedness Plan (ERPP) for research activities

2.2.4.8.1 Guidelines that align to development and implementation of Emergency Response and Preparedness Plans (ERPP)

1. The ESS Unit, in collaboration with project teams and relevant Directorates, Departments or individuals, shall develop a comprehensive ERPP for all research programs and facilities
2. The plan shall identify potential environmental, social, health, and safety risks, and outline preventive, mitigation, and response measures.
3. ESS Unit shall develop and disseminate an emergency preparedness and response plan template for research teams to guide in anticipating and responding to emergencies during research activities.
4. Research teams shall develop activity or project specific plans customized to operational context in alignment with the template provided in guideline (1).
5. ESS Unit shall conduct regular training, drills, and simulations for research teams to ensure readiness for emergency situations
6. The ESS Unit shall regularly update training materials and ERPP procedures based on lessons learned from drills or past incidents.

2.2.4.9 Apply Zero Tolerance for Unsafe Practices During Research activities

2.2.4.9.1 Guidelines that align to Zero Tolerance for Unsafe Practices in Research processes

1. NARO shall enforce a strict zero-tolerance approach for unsafe practices in all research programs, projects, and activities, ensuring research teams adhere to established safety, environmental, and social standards
2. To ensure applicability of the Zero tolerance approach, the ESS Unit shall:

- i) Develop and disseminate clear procedures for identifying and preventing any likely unsafe practices in research operations.
 - ii) Develop an inventory of ESS safety practices and disseminate them to research teams at PARIs and other stakeholders.
 - iii) Regularly update the safety practices considering the emerging environmental and social phenomena or issues.
3. Research teams shall ensure that all staff and collaborators within their jurisdictions are trained in safe operational procedures and strictly follow safety guidelines
 4. Facility operators at PARIs or any other sites outside PARIs but operating under NAROs mandate, shall be required to implement and display the ESS safety practices across workplaces specifying the DOs and DON'Ts.
 5. ESS focal person at PARI or any other entity working with NARO shall ensure compliance to the ESS safety practices.
 6. ESS Unit shall provide technical support and capacity-building to enable research teams to identify, report, and eliminate unsafe practices.
 7. Research teams shall analyze reported unsafe practices to identify root causes and implement preventive measures where applicable.
 8. Any individual who acts outside the established operational procedures and, as a result, experiences harm or causes negative impacts on others shall bear full responsibility for such unsafe conduct

2.2.5 Prevention of Child Labour

2.2.5.1 Policy Statement 8: NARO shall not employ or engage a child or children in any research program, project and activity that may be harmful or hazardous to their health, physical, mental, spiritual, moral or social development in accordance with Section 8.1 of Children Act 1997 amended 2016 and the National Child Labour Policy 2006.

2.2.5.2 Compliance to Child Protection requirements in research projects and activities

2.2.5.2.1 Guidelines that align to compliance and protection of Child Labour in research activities

1. NARO shall ensure full compliance with national child protection and labor laws in all research programs, projects, and activities to promote the safety, rights, and well-being of children and prevent any form of child labor or exploitation.
2. NARO shall integrate child protection clauses into all project designs, contracts, and partnership agreements ensure the safeguarding of children from any form of abuse, exploitation, or harm arising from institutional activities
3. ESS Unit shall develop and enforce Standard Operating Procedures (SOPs) for preventing child labor and ensuring child safety in research operations.

2.2.5.3 Apply Age verification and Eligibility approaches in research operations

2.2.5.3.1 Guidelines that align to Age limitation and Verification in research activities

1. NARO shall ensure that all individuals engaged in research activities, including fieldwork, internships, or contract work, meet the minimum age requirements as stipulated in national laws and NARO ESS policy
2. Research teams shall verify and maintain valid proof of age for all casual or contracted workers before engagement
3. ESS Unit shall define and communicate age verification protocols and procedures to guide all NARO research entities
4. The ESS unit shall create standard operating procedures (SOPs) to prevent child labor and safeguard children in research contexts

2.2.5.4 Adhere and implement child safe practices in research Operations

2.2.5.4.1 Guidelines that align to implementation of child safe practices in research activities

1. In the event that research activity is silent about age and intends to engage a diversity of workers,
 - i) Research teams shall ensure that research activities involving children are strictly educational, safe, and approved by relevant authorities.
 - ii) ESS Unit shall identify and list research programs or activities that may pose risks or be considered harmful or hazardous to children.
 - iii) NARO shall prohibit the employment or involvement of individuals under 18 years in any hazardous or inappropriate research roles.
 - iv) Research teams shall display anti-child labor and child protection messages prominently at research premises, project sites, and construction areas.
 - v) ESS Unit shall conduct periodic awareness sessions for staff, partners, and contractors on child protection obligations
 - vi) Conduct regular audits and inspections to ensure no child labor or engagement occurs in hazardous activities.
2. NARO shall ensure that all Memoranda of Understanding (MoUs), employment contracts, subcontracts, and service agreements with prospective partners or collaborators include explicit child labor prevention and protection clauses as a mandatory condition for partnership in research implementation.

2.2.6 Prevention of Human Trafficking

2.2.6.1 Policy Statement 9: NARO shall uphold ethical standards and best practices to ensure that research programs, projects and activities are free from any form of human trafficking in accordance with national and international laws.

2.2.6.2 Application of Ethical standards and best practices in research operations

2.2.6.2.1 Guidelines that align to application of Ethical Standards and best practices in research activities to wards Human trafficking

1. NARO shall:
 - i) Ensure adherence to ethical standards and best practices by instituting a zero-tolerance policy against any form of human trafficking within all research programs, projects, and activities.
 - ii) Integrate anti-human trafficking principles into NARO's institutional ethics framework, policies, and codes of conduct
 - iii) Ensure all research proposals undergo ethical review to assess potential human rights and trafficking risks.
 - iv) Establish institutional mechanisms for reporting and investigating suspected unethical practices or trafficking-related incidents
 - v) Not recruit, transport, transfer, harbor, or receive persons by means of threat or use of force or other forms of coercion, of abduction, fraud, deception, abuse of power, position of vulnerability, bribery, or benefits to achieve the consent of a person having control over another person for the purpose of exploitation.
 - vi) Align research practices to national and international requirements on human trafficking
 - vii) Train all staff, researchers, and partners on ethical standards and anti-human trafficking principles

2.2.6.3 Implement non-tolerance approaches to Human trafficking acts in research activities

2.2.6.3.1 Guidelines aligning to consideration of non-tolerance mechanisms for Human trafficking in research activities

1. NARO shall enforce a strict policy of zero tolerance toward human trafficking in all her research programs, partnerships, and field operations
2. Ensure all research activities, employment, and community engagements comply with national and international laws on human rights and anti-human trafficking

3. NARO shall Incorporate anti-trafficking measures/prohibitions into research project designs during pre and post implementation phases of research projects and activities.
4. In circumstances of signing contracts with parties, organizations or individuals, NARO shall include anti-human trafficking clauses in MoUs and contracts and sub contracts.
5. In circumstances where NARO is imposed on or shared with documents related to trafficking, NARO shall not re-produce, re-print, issue or distribute any document or information with any research partner for purposes of trafficking.

2.2.6.4 Develop and implement Standard Operating Procedures (SOPs) to prevent Human trafficking in all research activities

2.2.6.4.1 Guidelines that align to implementation of standard operating procedures (SOPs)to prevent Human trafficking in research activities

1. To ensure vigilance and consistency, NARO shall develop SOP to be adopted and implement by research teams
2. Upon receipt of the SOPs, NARO shall require Research teams to:
 - i) Avoid the use of forced, bonded, or involuntary labor in research activities or associated service provision
 - ii) Ensure that all recruitment agents, suppliers, and implementing partners to adhere to ethical recruitment practices
 - iii) Ensure confidentiality and non-retaliation for individuals who report in good faith.
 - iv) Verify that all personnel and subcontractors involved in research activities meet ethical and legal employment standards, including voluntary engagement and age verification.
 - v) Create standard and implement operating procedures (SOPs) and guidelines to prevent human trafficking in all research activities.
 - vi) Create information posters or fliers to display at research facilities about human trafficking.

- vii) Ensure there is a safe, anonymous mechanism to report cases of coercion, document withholding, or deception.
- viii) Publicize the system among all workers and guarantee non-retaliation for reporting.
- ix) Implement mandatory training for all staff, researchers, and collaborators on recognizing the signs of human trafficking, ethical research practices, and legal responsibilities.
- x) Sign ethical compliance and non-exploitation declarations before undertaking any research activities.

2.2.7 Protection of Indigenous People

2.2.7.1 Policy Statement 10: NARO shall respect and recognize the rights, culture and participation of indigenous communities in her agricultural research programs, projects and activities.

2.2.7.2 Enhance Respect for Indigenous Rights during research operations

2.2.7.2.1 Guidelines that align to Respect for indigenous rights during research operations

1. NARO shall identify and recognize the legal and customary rights of indigenous communities in all research programs, projects and activities and areas
2. Research teams at every stage of research project shall conduct a preliminary assessment to determine whether Indigenous Peoples are present in, or have collective attachment to, the proposed research area.
3. The ESS Unit working with Research teams shall spearhead the identification and mapping of indigenous communities, cultural sites likely to be affected by or involved in research activities.
4. The ESS Unit shall develop, maintain, and regularly update a comprehensive database of identified Indigenous communities and culturally significant sites to support informed planning, monitoring, and decision-making in research activities.

2.2.7.3 Promote inclusive participation of indigenous people in research processes

2.2.7.3.1 Guidelines that align to promotion of inclusive participation of indigenous people in research processes

1. NARO shall establish protocols for engaging with indigenous communities at every stage of agricultural research including initial consultations, participatory decision making throughout the research life cycle.
2. Research teams shall
 - i) Facilitate the representation of indigenous groups in decision-making structures related to their specific research programs.
 - ii) Engage indigenous communities in project design, implementation, monitoring, and evaluation.
3. Research teams shall ensure that any research activity involving indigenous peoples is preceded by Free, Prior and Informed Consent (FPIC).
4. The consent process must:
 - i) Be culturally appropriate.
 - ii) Take place before project implementation.
 - iii) Be based on full disclosure of all potential risks and benefits.
 - iv) Allow community members the option to say “no”.

2.2.7.4 Foster Cultural Sensitivity and Awareness in Research processes

2.2.7.4.1 Guidelines that align to Cultural Sensitivity and Awareness in Research processes

1. Research teams shall be required to
 - i) Undergo orientation or training on cultural awareness prior to engaging with local communities
 - ii) Design and implement research activities in a manner that respects traditional knowledge, customs, spiritual beliefs, practices and land use systems of indigenous peoples.
 - iii) Demonstrate respect for cultural differences and avoid actions or language that may be considered disrespectful or insensitive.

2. In executing research projects and activities, NARO shall require research teams to:
 - i) Avoid imposing practices or technologies that may erode indigenous ways of life.
 - ii) Respect local ceremonies, sacred sites, and cultural practices, and avoid conducting research activities that interfere with such traditions.
 - iii) Engage the community in project planning and decisions to ensure diverse and inclusive participation.
 - iv) Engage community leaders and elders at the initial stages of project planning to seek guidance and consent on research activities.
 - v) Train people on cultural norms, traditions, and values of indigenous communities with their research program, project or activity context.

2.2.8 Involuntary Resettlement

2.2.8.1 Policy Statement 11: NARO shall ensure that agricultural research project designs and alternatives avoid involuntary resettlement whenever possible.

2.2.8.2 Prioritize Resettlement Avoidance during research activities

2.2.8.2.1 Guidelines that align to Resettlement Avoidance during research activities

1. Research teams shall conduct preliminary environmental and social assessments prior to project implementation to identify potential resettlement or displacement risks
2. Research teams shall undertake early site screening and feasibility studies to evaluate land use, occupancy, and community presence in proposed research areas.
3. Research teams shall map inhabited, occupied, or culturally sensitive sites to inform decision-making and ensure respect for community rights.
4. Research teams shall conduct comprehensive consultations with potentially affected communities during research project

planning to ensure their views are well captured and taken care of.

5. Where potential displacement is identified, research teams shall explore alternative sites, layouts, or research methods that minimize or eliminate the need for resettlement.
6. Resettlement avoidance measures shall be integrated into the earliest stages of project planning and design to prevent social disruption.
7. All findings from screening and site assessments shall be documented and submitted to the ESS Unit to guide project approval and ensure compliance with ESS standards.

2.2.8.3 Comprehensive Social Impact Assessments

2.2.8.3.1 Guidelines that align to requirements for Social Impact Assessments in involuntary resettlement context.

1. All proposed research projects with potential social implications shall undergo a Social Impact Assessment (SIA) prior to implementation
2. The scope of the SIA shall be determined during the project design phase, identifying key social aspects such as livelihoods, gender, health, land use, cultural values, and community safety
3. The SIA process defined in (i) shall establish a detailed social baseline describing community demographics, social structures, economic activities, land tenure systems, and access to services.
4. Where avoidance of social impacts is not possible, research teams shall carry comprehensive social assessment with specific ESMPs.
5. Research teams shall propose clear mitigation and management measures to minimize harm
6. Research teams shall identify all persons, households and communities that are likely to be affected by the research activities and include them in their action plans.
7. Research teams shall ensure that the results of the assessment are disseminated to the affected individuals or communities

before project commences using participatory approaches

8. In cases where relocation is unavoidable, research teams shall obtain Free, Prior, and Informed Consent (FPIC) from affected communities in accordance with national and international standards
9. Research teams shall work collaboratively with affected communities to identify and implement preferred alternatives that minimize physical displacement and reduce socio-economic disruption.

2.2.8.4 Develop Resettlement Action Plans (RAPs), Where Unavoidable.

2.2.8.4.1 Guidelines that align to development of Resettlement Action Plans (RAPs) in research activities.

1. During research activities, Involuntary resettlement shall be avoided or minimized wherever feasible through alternative project designs
2. Where resettlement is the only available option, research teams shall develop Resettlement Action Plans (RAPs) to guide the process in fair, transparent and law full manner with best practices.
3. All RAPs shall align with national resettlement laws and relevant international best practices.
4. The RAP shall outline:
 - i) Project description and justification for resettlement
 - ii) The type and scale of displacement (physical, economic, or both).
 - iii) level of RAP required (abbreviated or full RAP) based on the magnitude of displacement and social risk.
 - iv) Livelihood restoration and improvement strategies for affected households.
 - v) Grievance redress mechanism to handle complaints transparently.
 - vi) The number and categories of affected persons and households.

- vii) Entitlements, compensation measures and livelihood restoration strategies.
 - viii) Timeframes, responsibilities, grievance redress options and monitoring mechanisms.
5. The Project Implementing Unit (PIU) or PARI shall prepare and implement the RAP in coordination with local authorities
 6. The ESS Unit shall provide technical guidance, quality assurance, and clearance of the RAP before implementation.

2.3 Sustainability Principle

2.3.1 Protection of Habitats

2.3.1.1 Policy Statement 12: NARO shall ensure that agricultural technology development conserves and/or minimizes loss of critical habitats.

2.3.1.2 Habitat Screening During Project Design

2.3.1.2.1 Guidelines that align to requirements for Habitat Screening in Research Project Design

1. NARO shall Conduct environmental and ecological assessments to identify critical habitats, sensitive ecosystems, and areas of high biodiversity value.
2. NARO shall develop and maintain maps and databases of habitats at risk from agricultural research and technology development
3. Research teams shall integrate habitat protection considerations into project design and site selection
4. ESS Unit shall develop and maintain a habitat mapping screening template to guide research teams in design of research projects and activities
5. Research teams shall be required to conduct preliminary screening before selecting research sites using templates provided.
6. Research teams shall identify whether proposed activities are near or within critical habitats based on characteristics presented in the habitat maps in guideline i) and ii) above

2.3.1.3 Avoidance of Ecologically Sensitive Areas

2.3.1.3.1 Guidelines that align to requirements for Avoidance of Ecologically Sensitive Areas during research undertakings

1. NARO shall require research teams to prioritize the avoidance of high conservation value areas when selecting project or research sites.
2. If a project or research activities is already underway and NARO determines that such an activity poses a risk of environmental damage or loss of conservation value, the research teams shall take corrective action.
3. The corrective action may include relocating the activity to a safer site or redesigning project operations to eliminate or minimize adverse impacts.

2.3.1.4 Apply the Mitigation Hierarchy during research processes

2.3.1.4.1 Guidelines that align to application of the Mitigation Hierarchy during research activities

1. Research teams shall prioritize avoidance of negative environmental and social impacts during project design and site selection.
2. Avoidance measures include:
 - i) Selecting research sites outside ecologically sensitive areas (e.g., wetlands, protected areas, cultural heritage sites).
 - ii) Modifying project design or timing to prevent disturbance to communities or ecosystems.
 - iii) Excluding high-risk activities that may cause irreversible harm.
 - iv) Environmental and Social Screening (ESS) shall identify avoidance opportunities early in the planning phase.
3. In circumstances where avoidance is not feasible, the research teams shall be required to apply the mitigation hierarchy.
4. The mitigation hierarchy follows approaches of:
 - i) Avoidance impacts through planning.
 - ii) Minimizing unavoidable impacts.

- iii) Rehabilitating/restore affected habitats.
 - iv) Offset residual impacts where necessary.
 - v) Implementing best management practices (BMPs) to reduce pollution, waste, or habitat disturbance.
5. After unavoidable impacts occur, research teams shall restore affected areas to their original or improved condition.
 6. Restoration plans shall be implemented immediately after field operations to prevent long-term degradation.
 7. For residual impacts that cannot be fully avoided, minimized, or restored, offset or compensation measures shall be developed.
 8. The ESS Unit shall train staff and partners on biodiversity conservation, ecosystem services, and habitat management using Hierarchy approaches.

2.3.1.5 Promote Eco-Friendly Research Practices

2.3.1.5.1 Guidelines that align to Promotion of Eco-Friendly Research Practices in research activities

1. NARO shall ensure that agricultural research projects and activities use sustainable inputs.
2. Research teams shall prioritize site selection in areas that minimize ecological disturbance.
3. NARO shall refrain research teams from undertaking research activities that may result in habitat loss, fragmentation or degradation.
4. ESS Unit shall encourage Research teams to:
 - i) Design and implement research activities that prioritize sustainable land use practices that safeguard ecosystems and biodiversity.
 - ii) Use energy-efficient equipment and renewable energy sources where possible.
 - iii) Optimize material use by reducing, reusing, and recycling consumables in laboratories and field sites.
 - iv) Limit vegetation clearance to the smallest area necessary
 - v) Minimize Noise, dust, and light emissions shall be minimized during research operations.

- vi) Promote digital data collection to reduce paper use.
- vii) Encourage virtual meetings to reduce travel emissions.
- viii) Support green mobility options, such as shared transport.
- ix) Promote carbon accounting and offset initiatives where feasible.

2.3.1.6 Restore Degraded sections of Eco-systems on NARO Land

2.3.1.6.1 Guidelines that align to requirements for Restoration of degraded sections of Eco-systems on NARO Land

1. NARO shall take deliberate measures to restore degraded sections of ecosystems within its holdings.
2. Each NARO institute or research station shall conduct regular environmental assessments to identify degraded or at-risk sections of land and ecosystems.
3. Assessment shall consider indicators such as soil erosion, vegetation loss, water contamination, invasive species, or reduced biodiversity.
4. NARO shall;
 - i) Rehabilitate affected areas on her land to reinstate the original ecological condition.
 - ii) Prioritize the use of native plant species and implement measures to minimize erosion and further land degradation.
 - iii) Apply practices that prevent the reoccurrence of degradation.
5. ESS Unit shall develop site restoration plan templates to guide research teams.
6. Research teams/ PARIs shall develop site restoration plans for each identified degraded area in their jurisdictions using the template developed in (f).
7. The ESS Unit, in collaboration with Focal persons and Institute management, shall maintain a register of degraded sites requiring restoration.
8. The ESS unit working with the Directorate of Audit shall conduct regular environmental audits and field inspections to ensure ecosystem restoration and compliance.

2.3.2 Conservation of Biological Diversity and sustainable management of living resources

2.3.2.1 Policy Statement 13: NARO shall promote agricultural research programs, projects and activities that protect and enhance the variety of life on earth, including the diversity of species, ecosystems and genetic resources.

2.3.2.2 General Consideration of biological diversity into research and development cycle.

2.3.2.2.1 Guidelines that align to consideration of biological diversity aspects into research activities

1. NARO shall conduct biodiversity assessments to understand potential impacts of research on species, ecosystems, and genetic resources
2. NARO shall ensure that all research programs and projects incorporate biodiversity considerations at the conceptual and planning stages
3. NARO shall develop and prescribe measures to conserve biological diversity across NARO research projects and activities.
4. The ESS Unit shall develop and disseminate guidelines and tools for identifying, monitoring, and managing biodiversity and agro-diversity impacts in research operations
5. Based on the results of the assessment and proposed measures, Research teams shall:
 - i) Conduct biodiversity assessments to understand potential impacts of research on species, ecosystems, and genetic resources.
 - ii) Ensure research, practices, processes and outputs and technologies do not compromise ecological balance.
 - iii) Adopt practices that minimize adverse impacts on local biodiversity during fieldwork and experimentation.
 - iv) Ensure field activities shall avoid unnecessary vegetation clearance, wildlife disturbance, or habitat fragmentation.
 - v) Ensure when handling live organisms, researchers shall follow humane, ethical, and biosafety procedures to protect both biodiversity and human health.

6. NARO shall encourage Cross-disciplinary collaboration to generate innovations that link biodiversity protection with productivity improvement.
7. The NARO shall prepare and maintain an inventory of biological diversity including indicative list of categories in accordance with applicable laws.
8. The ESS Unit shall maintain a central biodiversity information database capturing research-related biodiversity data
9. Based on the inventories and indicative lists developed, Research teams shall be required to;
 - i) Mainstream the conservation and sustainable utilization of biological resources into research activities to ensure no net loss but achieve net gain.
 - ii) Identify potential threats to biological diversity and implement measures to remove or investigate their effects;
 - iii) Recognize native species and take appropriate measures to prohibit, control, or eradicate invasive alien species.
 - iv) Incorporate traditional knowledge into conservation efforts alongside mainstream scientific knowledge, ensuring equitable sharing of benefits arising from its utilization.

2.3.2.3 Integration of biological biodiversity conservation in initial stages of Research Design

2.3.2.3.1 Guidelines that align to the requirements for integration of biological biodiversity into Research Design

1. NARO shall ensure that research designs prioritize the use of biodiversity-friendly approaches in the conduct of research
2. All research proposals shall explicitly include biodiversity-related objectives or components, ensuring that conservation and sustainable use considerations are addressed from the outset
3. NARO shall require that all agricultural research proposals and project designs include assessments of potential impacts on species, ecosystems, and genetic diversity.
4. Research designs shall include biodiversity monitoring indicators to assess effects on species, habitats, and ecosystem health.

5. To ensure reliability, the ESS Unit shall;
 - i) Shall review proposals to indicate/ determine whether the project area contains any threatened species, critical ecosystems, or genetic resources.
 - ii) Create and institutionalize a biodiversity impact screening tool to be used during the proposal review process.
 - iii) Ensure proposals include biodiversity conservation plans and /or measures to mitigate potential negative impacts on species, ecosystems and genetic diversity.
 - iv) Include biodiversity conservation criteria in project approvals, technology development, and ESS compliance checks

2.3.2.4 Promote sustainable practices that ensure sustainable conservation of biodiversity and agro-diversity

2.3.2.4.1 Guidelines that align to promotion of sustainable practices that ensure sustainable conservation of biodiversity and agro-diversity

1. NARO shall promote the use of sustainable land management, soil conservation, and ecosystem-based approaches that maintain ecological integrity in research sites.
2. The ESS Unit shall ensure that any introduction, transfer, or use of biological materials in research complies with biosafety and biosecurity regulations.
3. NARO shall integrate biodiversity and agro-diversity conservation principles into all agricultural research programs, projects, and activities.
4. NARO shall promote the adoption of biodiversity-friendly research practices and methodologies particularly in field trials and experimental studies.
5. NARO shall prioritize the use and conservation of indigenous and local plant and animal species in research activities.
6. NARO shall ensure that research activities avoid introduction of invasive alien species that may disrupt existing ecosystems or threaten native biodiversity.

7. NARO shall continuously monitor, evaluate, and report on the biodiversity outcomes of its research programs to inform policy and future planning.

2.3.2.5 Implement approaches for Management and Conservation of Agro-biodiversity

2.3.2.5.1 Guidelines that align to requirements for conservation of Agro-biodiversity

1. NARO shall ensure the conservation and sustainable use of agro biodiversity across all research and field activities.
2. Research teams shall adopt appropriate agricultural practices that enhance agro-diversity and protect local species and genetic resources.
3. To conserve agrobiodiversity, NARO shall;
 - i) Rehabilitate and restore degraded ecosystems on its land and promote the recovery and conservation of threatened species.
 - ii) Support seed banks, gene banks, and local seed systems to conserve plant genetic resources for food and agriculture.
 - iii) Promote in-situ conservation of biological resources including on -farm and in natural ecosystems during research projects.
 - iv) Where appropriate, collaborate with botanical gardens, zoos, and seed banks for ex-situ conservation efforts.
 - v) NARO shall continuously monitor, evaluate, and report on the biodiversity outcomes of its research programs to inform policy and future planning

2.3.2.6 Apply Ethical and Equitable approaches for Use of Genetic Resources

1. Guidelines that align to the requirements for Ethical and Equitable Use of Genetic Resources
2. NARO shall ensure the ethical, equitable, and sustainable use of local and indigenous genetic resources in all agricultural research projects and activities.
3. NARO shall establish and maintain a database and inventory of flora, fauna, and genetic resources associated with its

research programs to support conservation and knowledge sharing.

4. NARO shall maintain a genetic resource registry documenting all accessed, collected, or shared biological materials and associated data.
5. Research teams shall:
 - i) Obtain Prior Informed Consent (PIC) from local communities or custodians before accessing plant, animal, or microbial genetic resources.
 - ii) Ensure fair and equitable benefit-sharing, such as access to improved varieties, knowledge transfer, or financial benefits
 - iii) Ensure that the collection and use of genetic resources do not compromise the sustainability of ecosystems or local biodiversity.
 - iv) Ensure that the terms of access and use shall be documented under Mutually Agreed Terms (MAT) that define rights, responsibilities, and benefit-sharing arrangements.
 - v) Shall avoid misappropriation, unauthorized transfer, or commercial exploitation of genetic materials without proper agreements.

2.3.3 Climate Change Mitigation and Adaptation

2.3.3.1 Policy Statement 14: NARO shall incorporate climate-responsive measures into its agricultural research programs, projects and activities.

2.3.3.2 Integrate Climate Risk Actions in Research Design

2.3.3.2.1 Guidelines that align to the requirements for integration of Climate Risk Actions in Research Design

1. NARO shall mainstream climate risk management into all research planning, design, and implementation processes across programs and institutes.
2. NARO shall ensure that all new projects undergo a Climate Risk Screening prior to approval, in line with national climate adaptation strategies and ESS standards.

3. NARO shall ensure that all agricultural research programs, projects, and activities incorporate climate risk and vulnerability assessments at the design stage. The assessment shall
 - i) Identify climate-sensitive components of agricultural research, initiatives and prioritize interventions that enhance sustainable resource use.
 - ii) Prioritize research methods and technologies that suit the processes and that enhance climate resilience.

2.3.3.3 Integrate Climate Risk Actions in research design

2.3.3.3.1 Guidelines that align to integration of climate risk actions in research design

1. NARO shall institutionalize the implementation of climate risk actions across all research programs and projects to ensure resilience and sustainability of agricultural research outcomes
2. NARO shall require research teams to develop and implement climate action plans outlining specific adaptation and mitigation measures for addressing identified risks.
3. NARO shall strengthen institutional capacity by supporting regular training, mentorship, and awareness programs on climate risk assessment and adaptation planning.
4. The ESS Unit shall review and clear all research proposals to ensure that climate risks, adaptive strategies, and mitigation actions are adequately integrated
5. The ESS Unit shall provide technical guidance to research teams to integrating climate risk considerations into project planning, implementation and monitoring
6. ESS Unit shall develop a climate risk screening tools disseminate it to relevant research teams as a guiding resource for integrating climate considerations into research project planning and implementation.
7. ESS Unit shall build the capacity of research teams to apply climate risk management tools and incorporate climate data into research design and implementation.
8. Research teams shall apply climate risk and vulnerability assessment results to guide the selection of research sites,

methods, and technologies that are adaptive to changing climatic conditions.

9. Research teams shall identify and assess potential climate-related risks and vulnerabilities
10. Research teams shall integrate climate adaptation and mitigation actions into research design such as selection of climate-resilient technologies, cropping systems, and management practices
11. Research teams shall incorporate climate-smart indicators and performance measures into their project log frames, work plans, and monitoring systems
12. Research teams shall engage with local communities, extension workers, and other stakeholders to integrate local climate knowledge and adaptive practices into research design and implementation.
13. Research teams shall ensure that field staff and community collaborators are sensitized on climate risks and adaptive practices relevant to their research context.

2.3.3.4 Promote Climate-Smart Agricultural practices and innovations

2.3.3.4.1 Guidelines that align to promotion of Climate-Smart Agricultural practices and innovations

1. NARO shall integrate climate smart principles into institutional policies, strategic plans, and research frameworks to ensure that climate-smart innovation becomes a core to agricultural research.
2. NARO shall facilitate institutional mechanisms for knowledge exchange and technology transfer on climate smart approaches between researchers, policymakers, and farming communities.
3. The ESS Unit shall provide technical backstopping and capacity building to ensure that research designs, field trials, and dissemination programs reflect CSA principles.
4. Research teams shall prioritize the development, testing, and dissemination of climate-smart practices and innovations

that address specific agroecological and socio-economic conditions across NARO's research sites.

5. Research teams shall prioritize practices in research processes that reduce greenhouse gas emissions and enhance carbon sequestration.

2.3.3.5 Mainstream Climate Adaptation and mitigation in Training

2.3.3.5.1 Guidelines that align to requirements for mainstreaming adaptation and mitigation in research training programs

1. NARO shall institutionalize the integration of climate change adaptation and mitigation themes within all research training, capacity development, and knowledge-sharing programs
2. The ESS Unit shall develop standardized climate adaptation and mitigation training frameworks, and resource materials for integration into NARO's training programs.
3. The ESS Unit shall coordinate with NARO's human resource and training departments to embed climate change modules within staff induction, refresher, and leadership development programs
4. PARIs shall integrate climate mitigation and adaptations actions in their annual work plans and budgets to ensure that research activities contribute to climate resilience.
5. The ESS Unit shall develop and provide standardized templates to guide the integration of climate change adaptation and mitigation measures into all research projects and activities.
6. Research teams shall incorporate climate change adaptation and mitigation topics into their internal and external training sessions, workshops, and capacity-building events.
7. Research teams shall develop and apply practical field-based training modules that link research outputs to adaptation and mitigation outcomes.
8. Research teams shall engage communities, farmer organizations, in Climate awareness, demonstrations, and outreach activities to enhance adoption and scaling.

2.3.4 Waste Management, Pollution Prevention and Resource Efficiency

2.3.4.1 Policy Statement 15: NARO shall ensure sustainable waste management, prevent environmental pollution, and promote resource efficiency in the execution of her agricultural research activities.

2.3.4.2 Waste Management

2.3.4.2.1 Integrate waste management approaches into research planning and design

2.3.4.2.2 Guidelines that align to the requirements for integration of waste management approaches into research planning and design

1. NARO shall establish and enforce institutional waste management and procedures aligned with the National relevant laws
2. NARO shall ensure that all research programs and projects incorporate waste management hierarchy during the research planning and design stage
3. The ESS Unit shall develop and disseminate waste management guidelines, procedures, and best practices tailored to agricultural research contexts, including handling of chemical, biological, and general waste
4. Research teams shall conduct a waste assessment for each research project to identify potential waste streams, risks, and disposal requirements

2.3.4.2.3 Waste Identification and Classification approaches

2.3.4.2.4 Guidelines that align to Waste Identification and Classification approaches

1. NARO shall establish criteria for the classification of hazardous chemicals and products containing hazardous chemicals in accordance with their toxicity and the hazards they present to human health and the environment.
2. Research teams shall classify all hazardous wastes and substances according to their key risk characteristics, including: corrosiveness, carcinogenicity, flammability, persistence,

toxicity, explosiveness, radioactivity, infectiousness, and reactivity in accordance with applicable laws.

3. The classification in subsection (b) shall guide the safe handling, storage, transport, and disposal of hazardous materials in compliance with NARO's environmental and safety standards
4. The research teams shall further use this criterion for;
 - i) Identification, quantification and categorization of potential waste streams including organic, inorganic, hazardous, biomedical, chemical, and electronic waste during project design
 - ii) Labelling of hazardous chemicals and products containing hazardous chemicals.
 - iii) Separation of hazardous chemicals and products containing hazardous chemicals, including acid and bases.
 - iv) Storage, transportation and handling of hazardous chemicals and products containing hazardous chemicals.
 - v) Disposal of expired and utilized hazardous chemicals and products containing hazardous chemicals; and
 - vi) Monitoring of the effect of hazardous chemicals and their residue on human health and the environment.
5. PARIs shall establish onsite waste management systems, including color-coded bins, storage areas, composting units, and waste minimization infrastructure
6. ESS Unit shall conduct regular waste audits by (category) to research stations, laboratories, and field sites categorizing waste by type to support proper management practices and implement corrective actions where necessary.
7. Research teams shall document waste management procedures in project-specific Standard Operating Procedures (SOPs) and ensure that staff and students are trained accordingly.

2.3.4.2.5 Waste Minimization and Segregation at source

2.3.4.2.6 Guidelines that align to requirements for application of Waste Minimization and Segregation at source

1. NARO shall ensure that research teams reduce waste generation at source by using materials efficiently, minimizing excess and avoiding single-use or disposable items where possible.
2. NARO shall promote a reduce-reuse-recycle (3Rs) culture among staff, students, and contractors to support sustainable institutional operations.
3. Research teams shall implement the 3Rs principle: reduce, reuse, recycle across all research activities to minimize waste generation.
4. The ESS Unit shall develop and disseminate procedures for waste minimization and segregation at source tailored to laboratory, office, and field research contexts
5. Research teams shall identify and quantify waste streams generated from laboratory, office, field, and farm operations to inform segregation planning
6. PARIs through ESS- FPPs shall maintain waste records to ensure compliance with environmental and social safeguards.

2.3.4.2.7 Adhere to safe Storage and Handling of Waste

2.3.4.2.8 Guidelines that align to safe storage and handling of waste

1. NARO shall develop and enforce procedures for the safe storage and handling of all categories of research waste
2. NARO shall ensure that all research facilities and field sites are equipped with appropriate waste storage infrastructure, including secure containment areas, labeling systems, and secondary containment for hazardous waste.
3. Research teams shall ensure that all waste generated during research activities is segregated, safely managed to prevent accidents, contamination and environmental harm
4. Research teams shall ensure that waste is not deposited, stored, or allowed to accumulate at research sites, premises,

or surrounding areas in ways that could pose risks to public health, safety, or the environment

5. In line with guideline (4), research teams shall ensure that:
 - i) All waste is temporarily stored in designated, well-ventilated, and secure facilities with spill containment where applicable.
 - ii) Hazardous waste is stored separately from general waste and handled using appropriate PPEs.
 - iii) Stored waste shall not exceed recommended holding times, particularly for biodegradable or hazardous materials, to prevent odor, microbial growth, or chemical reactions.
 - iv) Shall maintain waste inventory logs, recording the type, quantity, date of generation, and storage duration for each waste category.
 - v) shall not dispose of research waste through open burning, burial, or unapproved dumping, except as approved

2.3.4.2.9 Adhere to safe practices during Collection, Transportation, and Disposal of Waste

2.3.4.2.10 Guidelines that align to requirements for safe Collection, Transportation, and Disposal of Waste

1. NARO shall ensure that waste generated at research facilities is safely collected, transported and disposed of at designated central collection and destruction sites in compliance with environmental and safety standards.
2. The following procedures shall be followed;
 - i) NARO shall engage only licensed and authorized to collect and transport waste from research facilities central disposal sites.
 - ii) Waste must be transported in covered containers or vehicles to avoid spillage or exposure or environmental contamination during transit.
 - iii) Transportation shall be supported by a waste manifest documenting source, type, quantity, and destination.
 - iv) The ESS Unit shall require the waste handler to issue a waste destruction certificate upon completion of the disposal exercise to ensure traceability.

- v) In case of accidents, leaks, or spills, responsible personnel shall immediately implement containment measures and notify the ESS Unit

2.3.4.3 Promote effective management of Laboratory Waste

2.3.4.3.1 Guidelines that align to effective management of Laboratory Waste

1. NARO shall develop and maintain an institutional Laboratory Waste Management Plan (LWMP) consistent with national environmental and OHS legislation.
2. ESS Unit shall develop standardized laboratory waste management plan templates to guide laboratory personnel in safe handling storage and disposal of waste.
3. Laboratory personnel
 - i) Shall prepare site specific laboratory waste management plans that align with the template provided in (1).
 - ii) Shall identify, classify and segregate waste at source according to type and risk
 - iii) Shall record waste type and quantity in the logbook daily
 - iv) Shall adhere to lab-specific SOPs for safe handling, storage and disposal of laboratory waste
 - v) Shall display good waste management posters, fliers or messages including instructions in visible places.

2.3.4.4 Prioritise Proper Procurement and Material Use to reduce waste

2.3.4.4.1 Guidelines that align to Proper Procurement and Material Use

1. NARO shall ensure that procurements and use of materials are planned and executed in manner that minimize waste
2. Before procuring materials, research teams shall conduct needs assessments and historical consumption analyses to determine the correct quantities required for their activities.
3. NARO shall prioritize the procurement of durable, recyclable, and energy-efficient products and services

2.3.4.5 Management of Environmental Pollution

2.3.4.5.1 Pollution Assessment and Mitigation Planning

2.3.4.5.2 Guidelines that align to requirements for Pollution Assessment and Mitigation Planning in research activities

1. To ensure that NARO research activities are planned, implemented, and monitored in a manner that prevents, minimizes, or mitigates pollution of air, water, and soil resources,
 - i) NARO shall ensure that all research projects include an environmental pollution risk assessment during planning and design phase to identify evaluate and mitigate potential environmental hazards.
 - ii) NARO shall ensure that all new and ongoing research activities undergo a Pollution Risk Screening during environmental and social assessment processes.
 - iii) The ESS Unit shall develop and disseminate pollution assessment tools and mitigation matrices tailored to agricultural research contexts, including chemical, biological, and physical pollutants.
 - iv) Research teams shall identify potential sources of pollution associated with their activities and integrate appropriate preventive and control measures into their ESMPs.
 - v) Research teams shall develop and implement Pollution Mitigation Plans specifying preventive, control, and emergency measure
 - vi) Research teams shall promote non-toxic, biodegradable, and eco-friendly materials wherever feasible
 - vii) Research teams shall design and implement mitigation measures to prevent or minimize pollution, including;
 - a) Proper handling, storage, and disposal of hazardous materials;
 - b) Use of environmentally friendly alternatives where possible
 - c) Measures to control air, water, and soil contamination.

2.3.4.5.3 Apply Measures for Control of Air Pollution

2.3.4.5.4 Guidelines that align measures for Control of Air Pollution

1. NARO shall require research teams to ensure that any substances with potential to cause air pollution are safely stored, handled and managed throughout the execution of research activities.
2. The ESS Unit shall develop and disseminate Procedures for Air Pollution Control tailored to different research contexts
3. Research teams shall identify potential sources of air pollution in their projects and propose mitigation actions
4. Research teams shall prepare Pollution Mitigation Plan (PMP) as part of project documentation, specifying preventive actions, monitoring measures, and responsible personnel.
5. Research teams shall prioritize the use of low -emission equipment and technologies during field trials to minimize air pollution.
6. Research institutes shall ensure regular maintenance of equipment to minimize emissions and improve energy efficiency
7. ESS Unit working with respective project teams shall monitor and evaluate the effectiveness of pollution mitigation measures during project implementation and recommend corrective actions where necessary

2.3.4.5.5 Apply Measures for Prevention of Water Pollution

2.3.4.5.6 Guidelines that align measures for Control of Water Pollution from research operations

1. NARO shall prohibit disposal of waste, agrochemicals, and effluents into open water bodies or storm drains or any other natural water ways.
2. Research teams shall integrate water pollution prevention measures into research planning, ESMPs, and project budgets where applicable
3. NARO shall encourage the adoption of eco-friendly technologies such as closed-loop systems, wastewater treatment, and water recycling in research operations.

4. Research teams shall identify potential sources of water pollution during research design and propose mitigation actions
5. Research teams shall be required to construct buffer zones or silt traps in field trials to prevent soil erosion and nutrient runoff into nearby water sources.

2.3.4.5.7 Implement Measures for Control of Soil Pollution

2.3.4.5.8 Guidelines that align to implementation of Measures for Control of Soil Pollution

1. NARO shall promote the safe practices for disposal of substances that could harm soil health.
2. NARO shall ensure that laboratories, storage areas, chemical handling zones, and field plots comply with soil protection standards
3. Research teams shall apply appropriate soil protection measures during all research activities that have the potential to degrade or contaminate soils
4. Research teams shall be required to minimize/avoid repeated use of the same plots for trials involving potentially toxic substances without soil recovery mechanisms.

2.3.4.6 Resource Efficiency

2.3.4.6.1 Resource Efficiency planning in research development processes

2.3.4.6.2 Guidelines that align Resource Efficiency planning in research development processes

1. NARO shall ensure that research activities are planned and implemented in a manner that optimizes use of energy and materials to ensure sustainability.
2. Research teams shall;
 - i) Incorporate the use of renewable energy sources and adopt energy efficient practices in all research operations.
 - ii) Implement measures to minimize consumption of non-renewable energy while maintaining operational effectiveness.

- iii) Prioritize local sourcing of materials and inputs where quality standards are met, to reduce transport-related costs and emissions.

2.3.4.6.3 Apply measures for Energy Efficiency during research operations

2.3.4.6.4 Guidelines that align to application of measures to ensure Energy Efficiency during research operations

1. NARO shall ensure that all research facilities adopt energy efficient systems, practices and technologies to reduce energy consumption, optimize resource use and minimize environmental impact.
2. To ensure efficiency, research teams shall
 - i) Implement energy-saving infrastructures in research facilities including laboratories, and offices to minimize consumption.
 - ii) Promote the use of energy-efficient appliances, including laboratory equipment's, lighting, heating and cooling systems, and office electronics
 - iii) Promote scheduled maintenance of equipment to prevent energy loss due to poor performance.
 - iv) Encourage shared equipment use across projects and departments to reduce redundancy.
 - v) Implement energy-saving schedules for high-energy-consuming operations (e.g., freezers, incubators etc).
3. The ESS Unit working with audit directorate shall conduct periodic audits to stations, or sites to evaluate energy use and identify opportunities for energy savings

2.3.4.6.5 Adopt Water Use Efficiency during research operations

2.3.4.6.6 Guidelines that align to requirements for Water Use Efficiency during research operations

1. PARIs shall ensure that all research activities and demonstration activities promote efficient and sustainable water resources, minimizing wastage and reduce pressure on conventional water sources.

2. PARIs shall promote and implement the use of water-harvesting technologies, storage tanks and other water harvesting systems at field trials and demonstration sites and research stations.
3. Research teams shall monitor water usage regularly to identify areas of wastage and implement corrective measures.
4. Research teams shall conduct routine inspections of water supply systems to detect repair leaks to ensure efficient water delivery and minimize losses.
5. At project/ site level, staff shall be encouraged to adopt water-conscious behaviors, such as turning off taps when not in use, using water-efficient irrigation methods, and reporting leaks promptly.

2.3.4.6.7 Encourage Continuous Improvement

2.3.4.6.8 Guidelines that align to Continuous Improvement for resource efficiency and management

1. ESS Unit shall develop and promote learning toolkits that showcase best practices in resource use efficiency.
2. The ESS Unit shall regularly conduct training sessions to enhance staff capacity, ensure efficient resource utilization, and strengthen readiness for effective implementation of safeguards.

2.3.5 Promotion of Public Health

2.3.5.1 Policy Statement 16: NARO shall promote the health and well-being of communities and ecosystems that are likely to affect and/ or be affected by her agricultural research programs, projects and activities.

2.3.5.2 Conduct Health and Environmental Assessments (HEAs) for research projects and activities

2.3.5.2.1 Guidelines that align to requirements for conducting health and environmental assessments for research projects and activities

1. NARO shall ensure that all research programs, projects, and activities undergo comprehensive health and environmental assessments during planning and design to identify potential risks to human health, communities, and ecosystems.
2. The ESS Unit shall develop and disseminate assessment tools, templates, and procedures to guide research teams in systematically evaluating health and environmental risks associated with research interventions
3. Research teams shall use the tools and procedures to:
 - i) Identify potential health, safety, and environmental hazards associated with research activities, including fieldwork, laboratory experiments, and facility operations.
 - ii) Evaluate vulnerability and exposure of workers, communities, and ecosystems to identified risks
 - iii) Research teams shall assess the magnitude, likelihood, and significance of potential risks and prioritize them for mitigation
 - iv) Research teams shall develop mitigation measures and integrate them into project implementation plans, ESMPs and SOPs
 - v) Document findings in report, which will inform project design, mitigation measures, and approval processes.
4. ESS Unit shall review assessment reports to ensure compliance and implementation of corrective actions

2.3.5.3 Develop protocols to promote human and ecosystem health in research processes

2.3.5.3.1 Guidelines that align to development of protocols to promote human and ecosystem health during research processes

1. NARO shall develop and disseminate comprehensive guidelines, protocols, and standard operating procedures for one health model.
2. The procedures and standards shall
 - i) Minimize risks to researchers, communities, and other stakeholders

- ii) Prevent environmental degradation and protect biodiversity
- 3. Research teams shall integrate the developed procedures into all stages of research planning, design, and implementation, including:
 - i) Selection of research sites, methods, and technologies.
 - ii) Handling, storage, and disposal of hazardous substances
 - iii) Monitoring and mitigating potential impacts on human health and ecosystems
- 4. The ESS unit shall periodically review and update the procedures to reflect emerging risks, lessons learned, and advances in sustainable research practices

2.3.5.4 Promote safe and sustainable practices to protect human and environmental health

2.3.5.4.1 Guidelines that align promotion of safe and sustainable practices that protect human and environmental health

- 1. NARO shall ensure that all research programs, projects, and activities adopt safe and sustainable practices to protect both human health and the environment
- 2. The ESS Unit shall develop and disseminate standard operating procedures (SOPs), codes of practice, and technical guidance to ensure safe handling of materials, safe fieldwork, and environmentally responsible research operations.
- 3. In view of the above, research teams shall;
 - i) Use sustainable and low-impact research methods that minimize environmental degradation and resource depletion during research works.
 - ii) Implement occupational health and safety measures to prevent harm to staff, contractors, and communities.
 - iii) Apply proper waste management, pollution control, and ecosystem protection measures in all research activities.
- 4. ESS Unit shall monitor and evaluate compliance with safe and sustainable practices through audits, inspections, and reporting systems.

2.3.5.5 Promote Safe Use and Management of Agrochemicals

2.3.5.5.1 Guidelines that align to the safe use and management of Agrochemicals during research operations

1. NARO shall ensure that all research programs, projects, and activities involving agrochemicals comply with legal requirements and best practices on chemical use and management
2. Chemicals and research inputs used in agricultural research and innovation shall meet with safety standards and handled in a manner that protects human health and the environment.
3. NARO shall encourage the adoption of alternative, eco-friendly, and integrated pest management approaches where feasible to reduce reliance on hazardous agrochemicals.
4. The ESS Unit shall develop and disseminate standard operating procedures (SOPs) and guidelines for the safe handling, storage, application, transport, and disposal of agrochemicals in research contexts
5. Research teams shall:
 - i) Adhere to established procedures for safe handling, storage and disposal of chemicals and expired inputs.
 - ii) Conduct a risk assessment for all agrochemical use in research, identifying potential hazards to humans, animals, and ecosystems.
 - iii) Apply precautionary measures during handling, including appropriate personal protective equipment (PPE) and safety signage.
 - iv) Use correct dosages, application techniques, and timing to minimize environmental contamination and health risks.
 - v) Ensure that all chemicals have clear labeling, proper packaging, and are accompanied by Material Safety Data Sheets (MSDS/SDS) outlining hazards, safe use, and emergency measures.
 - vi) Keep an up-to-date inventory and usage log of all inputs and chemicals used in research activities.

- vii) Maintain accurate records of agrochemical use, including quantities, application sites, storage conditions, and disposal methods.
- 6. ESS Unit shall train research teams and field workers on the safe handling, storage, application, and disposal of agrochemicals to prevent exposure to humans and contamination of food, water, and air.
 - i) NARO ESS Unit shall organize training workshops in all PARIs and field sites.
 - ii) Disseminate fliers, tutorials, messages on safe use and management of chemicals

2.3.5.6 Ensure Safety and quality of agricultural research technologies, products and services

2.3.5.6.1 Guidelines that align to Safety and quality of agricultural research technologies, products and services to ensure health of people and ecosystems

1. NARO shall integrate safety and quality considerations into all stages of research and technology development, from design to dissemination
2. NARO shall ensure that all technologies, products, and services comply with national and international safety standards, quality regulations, and biosafety requirements.
3. Research teams shall:
 - i) Implement measures to ensure the safety and quality of research output.
 - ii) Ensure clear, accurate labeling with usage instructions, safety precautions, expiry dates, and contact information for queries or emergencies.
 - iii) Conduct community-level demonstrations and farmer field schools to teach safe and effective product use.
 - iv) Maintain traceability and documentation for each technology or product to ensure accountability and quality control.
 - v) Provide Material Safety Data Sheets (MSDS) for any products involving chemicals or biological materials.

- vi) Establish feedback for users to report adverse effects, product failures, or safety concerns

2.3.5.7 Support Community Engagement and Awareness for safety

2.3.5.7.1 Guidelines that align requirements for continuous Community Engagement and Awareness to ensure safety

1. NARO shall ensure that community engagement is an ongoing, participatory, and inclusive process, beginning at project planning and continuing throughout the research lifecycle.
2. NARO shall inform and involve local communities on any health-related risks that may arise from nearby research activities through, early warnings, community dialogues and sensitization meetings.
3. Research teams shall continuously share information on research objectives, potential risks, and safety measures in an accessible and culturally appropriate manner.

2.3.6 Protection of Physical and Cultural Heritage

2.3.6.1 Policy Statement 17: NARO shall respect, recognize and protect the cultural and historical significance of communities in the conduct of her agricultural research programs, projects and activities.

2.3.6.2 Identification and Screening of Cultural Heritage Sites

2.3.6.2.1 Guidelines that align to Identification and Screening of Cultural Heritage Sites

1. NARO shall identify, protect, conserve cultural sites on her land for the benefit of present and future usage
2. The ESS Unit shall develop and disseminate screening tools, and checklists to support research teams in systematically identifying culturally sensitive sites
3. The ESS unit shall maintain an up-to -date register of cultural and natural heritage identified in subsection 1 to ensure their protection and informed management during research activities.

2.3.6.3 Implement measures to protect the cultural and historical sites of significance from erosion

2.3.6.3.1 Guidelines that align to implementation of measures that protect the cultural and historical sites of significance from erosion

1. NARO shall establish and enforce appropriate measures to manage and protect all the identified natural heritage sites to ensure their preservation during research activities.
2. In circumstances of undertaking research projects that may have negative impacts on such sites, research teams shall:
 - i) Integrate heritage protection plans into project design and environmental and social management plans (ESMPs).
 - ii) Establish buffer zones and other physical protection measures around heritage sites during construction or field research.
 - iii) Engage with cultural institutions, elders, and local authorities to identify sacred sites, historical/ cultural landmarks, or culturally significant landscapes near project locations.
 - iv) Map all significant cultural sites that might affect and/ or be affected by the research projects, and activities.
 - v) Ensure no excavation, chemical use, or construction activity occurs within restricted heritage zones
 - vi) Seek free, prior, and informed consent (FPIC) from local communities before initiating any activity that may impact cultural or religious sites.

2.3.6.4 Apply the Minimization strategy to negative Impacts on Cultural Heritage

2.3.6.4.1 Guidelines that align to application of minimization approach of impacts on Cultural Heritage during research operations

1. NARO shall ensure that all research projects and activities adopt the “avoid-minimize-mitigate-restore” hierarchy to protect cultural and historical heritage during research planning and implementation.

2. The ESS unit shall:
 - i) Develop and disseminate screening tools to guide research teams in identifying and assessing potential risks
 - ii) Review and advise on project plans to ensure that cultural heritage considerations are integrated at the earliest design stage
3. Research teams shall ensure research project and infrastructure developments avoid interference with or destruction of the known cultural or historical sites.
4. In circumstances where avoidance is not possible, Research teams shall:
 - i) Develop a Cultural Heritage Management Plan (CHMP) specifying actions for impact minimization, restoration, and documentation.
 - ii) Redesign or realign project activities (e.g., field plots, construction, or infrastructure placement) to avoid or minimize interference with heritage sites
 - iii) Research teams shall ensure measures to minimize and mitigate negative impacts are implemented.
 - iv) In cases requiring special arrangements, NARO shall provide fair, timely, and culturally appropriate compensation in consultation with affected communities and relevant authorities.

2.3.7 Lands and Soil Conservation

2.3.7.1 Policy Statement 18: NARO shall promote sustainable land use practices and soil health in execution of her agricultural research programs, projects and activities.

2.3.7.2 Adopt and implement Sustainable Land Use Planning

2.3.7.2.1 Guidelines that align to adoption of Sustainable Land Use Planning in research operations

1. NARO shall integrate sustainable land use principles into research planning, site selection, and project design.
2. NARO shall ensure that all research activities and field sites are guided by site specific environmentally sustainable land

use plans that balance research objectives with conservation and social considerations

3. Research teams shall incorporate sustainable land use practices into all research and experimental site operations including:
 - i) Avoiding land clearing in sensitive ecosystems and high-conservation areas
 - ii) Planning research infrastructure (plots, laboratories, access roads) to minimize land disturbance
 - iii) Rehabilitating the already degraded sections of the land

2.3.7.3 Develop land use plans to guide resource users during research activities

2.3.7.3.1 Guidelines that align to requirements for the development of land use plans to guide resource users

1. NARO shall develop comprehensive land use plans for all research stations, programs, and field sites to ensure orderly, efficient, and sustainable utilization of land resources.
2. ESS Unit working with the Land department shall develop land use planning guidelines and tools that align research activities with required land use and environmental policies.
3. NARO shall conduct land suitability assessments before land allocation or development for research purposes.
4. ESS Unit shall support PARIs to develop site-specific land use plans taking into account local ecological, social and cultural conditions.
5. The ESS working with the Lands department shall map and maintain a land use inventory for all NARO research stations and projects, indicating land categories, utilization, and ecological sensitivity.

2.3.7.4 Implement land use management practices that balance research needs with sustainable use and protection of natural resources

2.3.7.4.1 Guidelines that align with the requirements for implementation of land use management practices that balance research needs with sustainable use and protection of natural resources

1. NARO shall ensure that all land use management decisions within its research programs, projects, and facilities strike a balance between research productivity and environmental sustainability.
2. Working with Land department, ESS unit shall develop and disseminate land management standards and best practice manuals to guide sustainable use of natural resources.
3. Where land use plan may cause Environmental or social damage, a user department or PARI must incorporate mitigation measures to prevent adverse impacts.
4. Research teams shall:
 - i) Plan and implement research activities in ways that minimize land disturbance, prevent resource degradation, and protect ecosystem services
 - ii) Apply land use planning tools and follow ESS guidance in selecting and developing research sites.
 - iii) Prioritize optimal and sustainable land use to prevent, erosion, or over-exploitation of land resources.
 - iv) Engage local stakeholders and communities in sustainable land management practices where research activities intersect with communal resources.

2.3.7.5 Promote soil conservation and regeneration measures

2.3.7.5.1 Guidelines that align to promotion of soil conservation and regeneration measures

1. NARO shall integrate soil conservation and regeneration principles into all agricultural research, field operations, and land management practices to maintain soil fertility, structure, and ecosystem service.
2. Research teams shall:
 - i) Implement soil health monitoring systems, including soil testing, erosion risk mapping, and fertility tracking.

- ii) Incorporate best practices and soil conservation measures into project design, field trials, and land preparation activities.
- iii) Utilize organic amendments erosion control structures to enhance soil structure and fertility.

3. ENVIRONMENTAL RISK ASSESSMENT AND MITIGATION

3.1 Environmental and Social Risk Assessment and Mitigation

3.1.1 Policy Statement 19: NARO shall ensure comprehensive management of environmental and social risk in her research programs, projects and activities.

3.1.1.1 Integrate risk assessments into project planning

3.1.1.1.1 Guidelines that align to integration of Environmental risk assessments into project planning

1. NARO shall ensure that all research programs, projects, and activities incorporate comprehensive environmental and social risk assessments (ESRAs) during the project conception, planning and design phases to identify, evaluate, and manage potential risks early
2. The ESS shall:
 - i) Develop and disseminate standard tools and checklists for conducting environmental and social risk assessments across all NARO research programs and projects
 - ii) Provide technical guidance and training to research teams on integrating risk assessment into proposal development, budgeting, and implementation planning.
 - iii) Review and approve project risk assessments to ensure they align with environmental laws, NARO's ESS Policy and best practices

3.1.2 Considerations for Environmental and Social Risk Assessment

3.1.2.1 Guidelines that align to the requirements for Consideration of the Environmental and social Risk Assessment

1. NARO shall ensure that all high-risk research projects and activities undergo environmental and social risk assessment to identify, evaluate and management potential risks to human health and the environment.

2. The assessment must be completed prior to project commencement to inform mitigation strategies
3. The risk assessment shall take into account the relevant technical and scientific details regarding environmental, social, or health risks or hazards associated with the research project or activities.

3.1.2.2 Prioritize Environmental and Social Risk Screening

3.1.2.2.1 Guidelines align to the requirements of Environmental and Social Risk Screening

1. NARO shall ensure that her research projects, and activities undergo environmental and social risk screening at the concept and design stages.
2. The screening shall determine:
 - i) Whether an environmental or social assessment is required for such research projects.
 - ii) The type and level of assessment necessary.
 - iii) The level of the project in terms of risk (e.g., low, moderate, or high)
 - iv) Whether the activity will cause long-term, indirect or indirect impacts.
 - v) Recommendations for corrective actions.
3. NARO ESS Unit shall develop and disseminate a risk screening checklists to guide research teams in identifying and profiling risks during project planning and design.
4. The ESS shall review and classify projects according to their risk level (e.g., Low, Moderate, Substantial, or High) based on potential environmental and social impacts.
5. The ESS Unit or research teams shall maintain a central database of screening results and risk classifications for tracking and reporting purpose
6. Research teams shall:
 - i) Identify all projects within their jurisdiction that are required to undergo environmental screening

- ii) Conduct initial E&S screenings at the project planning stage, prior to any physical implementation or field activities.
- iii) Submit completed screening forms and supporting documentation to the ESS Unit for verification and approval.
- iv) Integrate screening outcomes into project design by including appropriate risk mitigation and management measures

3.1.2.3 Undertaking Environmental and Social Risk Assessment (ESRA)

3.1.2.3.1 Guidelines that align to undertaking Environmental and Social Risk Assessment (ESRA) in research in activities

1. NARO shall require that research projects identified as moderate to high risk, undergo detailed Environmental and Social risk Assessments.
2. The assessment shall systematically identify, evaluate, and mitigate potential environmental and social risks associated with such activities prior to implementation

3.1.2.4 The Circumstances under which ESRA is required

3.1.2.4.1 Guidelines aligning to circumstances under which Environment and social risks assessment is required

1. Research teams shall consider the need for an ESRA under the following circumstances;
 - i) When a proposed research project involves the use of hazardous materials, chemicals, biological agents, or genetically modified organisms
 - ii) When research project or sub project or auxiliary activity may introduce new species into the ecosystem or where the control of species of flora or fauna could be invasive or pose a threat to the environment and society;
 - iii) When a research activity is located within or near environmentally sensitive areas, such as wetlands, forests, riverbanks, wildlife habitats, or protected ecosystems.

- iv) Where the project may increase the vulnerability of people or potentially lead to the extinction of species.
 - v) When a project is likely to generate waste, effluents, or emissions that could pollute air, water, or soil
 - vi) During the construction or expansion of major infrastructure such as laboratories, agro-processing facilities, irrigation schemes, greenhouses, or seed storage warehouses; construction of roads, water abstraction systems, or energy installations for agricultural research.
 - vii) Where the activity is likely to impact on critical habitats, species of concern or cultural or natural heritage
 - viii) When the project involves new or untested technologies, chemicals with uncertain or potentially significant environmental impacts
 - ix) When new methods or substances are introduced for controlling insects, other organisms or weeds or where activities could cause acute pollution;
 - x) When previous environmental monitoring reports or audits indicate emerging or cumulative environmental risks
2. ESS Unit shall develop a Risk Ranking Matrix (RRM) to describe/ determine sensitivity/ severity of risks associated with research activities.

3.1.2.5 Prioritize Environmental and Social Impact Assessment (ESIA)

3.1.2.5.1 Guidelines that align to prioritization of Environmental and Social Impact Assessment (ESIA) in research activities

1. NARO shall make Environmental and Social Impact Assessment (ESIA) a mandatory requirement for all research activities classified as Moderate, or High Risk based on prior screening outcomes.
2. For projects that are likely to have adverse, residual or cumulative high-risk impacts, NARO shall require research teams to conduct ESIA's prior project implementation.
3. The ESIA specified in guideline one shall be undertaken in any of the following circumstances.

- i) Construction or expansion of major research infrastructure such as laboratories, agro-processing facilities, irrigation schemes, greenhouses, or seed storage warehouses; construction of roads, water abstraction systems, or energy installations among others.
 - ii) Research projects likely to be undertaken in environmentally sensitive or protected areas such as wetlands, forests, lakes, rivers, wildlife reserves, or ecosystems of ecological importance.
 - iii) Introduction of High-Risk Technologies and inputs for instance; Genetically modified crops or animals, New agro-chemicals, pesticides, or fertilizers, and Biotechnology or bioengineering interventions.
 - iv) Projects involving large-scale Land Use Change including establishing large field trial sites, clearing forests or grasslands for demonstration farms, engaging in land acquisition or resettlement.
 - v) Projects with significant social impacts which could displace people or affect their access to resources; disrupt livelihoods, or cause community tensions or inequitable benefit distribution.
4. The ESS Unit shall:
- i) Develop and disseminate standard procedures and tools for conducting ESIA's consistent with national environmental laws and international standards
 - ii) Maintain an updated register of all approved ESIA's and related Environmental and Social Management Plans (ESMPs).
 - iii) Build the capacity of research teams and partners through training and awareness programs on ESIA processes and best practices
5. Research teams shall:
- i) Conduct or commission ESIA's for research projects that may significantly affect the environment, biodiversity, land use, or local communities.

- ii) Ensure that the ESIA process includes public participation and stakeholder consultation, particularly with affected communities and vulnerable groups.
- iii) Integrate ESIA findings into project planning and design by incorporating recommended mitigation, monitoring, and management measures
- iv) Allocate adequate budget and resources for the implementation of ESMP actions derived from the ESIA findings.

3.1.2.6 Hazard Identification and mapping during research developments

3.1.2.6.1 Guidelines that align to Risk or Hazard Identification and mapping during research developments

1. The ESS Unit shall ensure that all research projects and activities undergo hazard identification processes in order to detect, document and evaluate potential hazards to minimizes risks to society and the environment.
2. The hazard identification and mapping shall be considered a mandatory step in the planning and design of all research projects and facility developments
3. Risks and Hazards identification shall identify:
 - i) Environmental risks
 - a) Identify, classify, and document potential environmental risks and hazards related to research activities, facilities, and field operations.
 - b) Consider risks associated with agro-chemical use, or any other harmful input, waste management, pollution, climate variability, biodiversity loss, and occupational exposure.
 - c) Determine whether research materials pose a threat to the protection, conservation, and maintenance of habitats and biodiversity.
 - d) Be carried out using standardized assessment tools and checklists developed by the ESS Unit to ensure consistency across all NARO programs.

- e) Be updated regularly to account for new or emerging risks during project implementation or operational changes.
- ii) Social Risks and Hazards
 - a) Identify threats to people that may be involved in the research activity either directly or indirectly.
 - b) Assess potential disproportionate impacts on disadvantaged or vulnerable groups.
 - c) If its site specific, safeguard the safety and well-being of workers and research project-affected persons.
 - d) Identify issues of land access and availability as well s evaluates implications for food security to society
 - e) Be guided by standard social risk screening tools and checklists developed by the ESS Unit in accordance with ESS standards.
 - f) Be reviewed and updated periodically to reflect changes in project scope, stakeholder dynamics, or emerging social issues.
- iii) Health related Risks and Hazards
 - a) Be conducted for all research projects and activities to identify potential risks to the health and safety of researchers, workers, and surrounding communities.
 - b) Assess occupational health risks arising from exposure to hazardous materials, chemicals, biological agents, or unsafe working environments in laboratories, field stations, and research sites
 - c) Be guided by occupational safety and health standards, and procedures NARO's ESS policies and best practices
 - d) Be reviewed regularly to identify and assess individuals or groups who may be exposed to potential health impacts arising from research projects or activities

3.1.2.7 Risk and Vulnerability Analysis

3.1.2.7.1 Guidelines that align to the requirements for Risk and Vulnerability Analysis

1. NARO shall conduct vulnerability assessments to identify individuals, groups, ecosystems, or assets most susceptible to environmental, health, and social risks associated with research projects or activities.
2. Risk vulnerability analysis shall
 - i) Determine the state of the environment, persons, or communities that are vulnerable and could be harmed in the event or occurrence of the identified risk or hazard.
 - ii) Evaluate the potential exposure of the environment, persons or communities to the impacts of the proposed research projects or activities.
 - iii) Provide evidence to guide the development of targeted mitigation, adaptation, and risk management strategies
 - iv) Provide actions to avoid or reduce the adverse impacts or effects of the research projects or activities on society and the environment.
 - v) Include a comparison of the risk and hazard scenarios, the severity of the risks, and the likely impact leading to an overall ranking of the response options.

3.1.2.8 Implement Response Action

3.1.2.8.1 Guidelines aligning to implementation of risk response actions

1. To ensure that identified environmental, social, and health risks are effectively managed through timely and appropriate response actions in all NARO research projects and activities, NARO shall:
2. Ensure that response actions are prioritized and implemented based on the severity and likelihood of risks identified during vulnerability analysis and risk assessments.
3. Provide necessary resources and capacity to implement mitigation measures in a timely and effective manner.
4. The ESS Unit working with the Audit Directorate
 - i) Shall periodically or whenever need arises, conduct audits on annual basis to evaluate the responsiveness of the research projects to which risk and hazards have been identified.

- ii) Develop standard response action plans template for different categories of environmental and social risks.
 - iii) Coordinate with relevant research teams, and stakeholders to ensure compliance and effectiveness of response actions
 - iv) Monitor and evaluate the implementation of response measures and update actions as needed
5. Research teams shall
- i) Implement risk mitigation and management measures as specified in Environmental and Social Management Plans (ESMPs) and project-specific action plans.
 - ii) Respond promptly to emerging hazards or incidents identified during project implementation.
 - iii) Document all response actions, outcomes, and lessons learned for continuous improvement and reporting to the ESS Unit

4. ENVIRONMENT AND SOCIAL MANAGEMENT SYSTEM (ESMS)

4.1 Environment And Social Management System (Esms)

4.1.1 Policy Statement 20: NARO shall establish an environment and social management system in accordance with relevant laws, regulations and standards.

4.1.2 Develop and Institutionalization the ESMS

4.1.2.1 Guidelines that align to the development and institutionalization the ESMS

1. NARO shall design and develop a comprehensive Environmental and Social Management System (ESMS) to guide the implementation of ESS policies across all research programs, projects, and activities
2. The ESMS shall be a documented and structured framework that clearly outlines the processes, practices, and measures required to identify, manage, and mitigate environmental and social risks across all NARO research programs, projects, and activities.
3. The ESMS shall:
 - i) Define roles, responsibilities, and accountability for ESS compliance
 - ii) Include standard operating procedures (SOPs), checklists, and reporting mechanisms to ensure consistent application.
 - iii) provide guidance for risk assessment, mitigation, monitoring, and continuous improvement throughout the research lifecycle
 - iv) be accessible to all staff, partners, and stakeholders involved in research planning and implementation

4.1.3 Develop operational procedures to operationalize the ESMS across NARO.

4.1.3.1 Guidelines that align to development of Operational procedures to operationalize the ESMS across NARO

1. NARO shall develop, approve, and institutionalize Operational Procedures (OPs) that define the step-by-step implementation of ESMS components across all levels of the organization.
2. The ESS unit shall:
 - i) Develop the framework, tools, and procedures necessary for the ESMS to function effectively.
 - ii) Develop procedure manuals, flowcharts, and templates that clearly define responsibilities, timelines, and documentation requirements for each ESMS component.
 - iii) Ensure alignment of the ESMS with environmental and social regulations, ESS standards, and NARO's research priorities.
 - iv) Periodically assess the effectiveness of ESMS implementation, identify gaps, and recommend corrective actions.
 - v) Conduct capacity building, and awareness to ensure all staff, partners, and stakeholders understand and effectively apply the ESMS.
 - vi) Maintain and implement an environment and social management (ESMS) in a manner prescribed by the policy and regulations.
3. NARO shall require Research teams to:
 - i) Adopt and customize ESMS operational procedures to fit their specific contexts while maintaining alignment with the institutional framework
 - ii) Apply the approved ESMS operational procedures in day-to-day research planning, implementation, and reporting
 - iii) Document compliance with ESMS requirements in project reports and submissions to the ESS Unit
4. At institutional level, PARIs shall:
 - i) Maintain and implement the ESMS specified in guideline (1)

- ii) Designate focal points or teams responsible for ESMS implementation, monitoring, and reporting within each PARI.
- iii) Embed ESMS requirements into project planning, approval workflows, operational procedures, and performance evaluations

5. ENVIRONMENTAL AND SOCIAL COMPLIANCE AUDITS

5.1 Environmental and Social Compliance Audits

5.1.1 Policy Statement 21: NARO shall conduct periodic environmental and social compliance audits for her research programs, projects and activities.

5.1.2 Develop an environmental and social Audit framework

5.1.2.1 Guidelines that align to the development of an environmental and social Audit framework.

1. NARO shall establish a systematic approach for auditing environmental and social compliance across research programs, projects, and activities, ensuring adherence to ESS policies.
2. The framework shall:
 - i) Define the purpose of the audit (compliance, risk management, performance evaluation, or continuous improvement
 - ii) Specify the scope, including which projects, programs, facilities, or activities will be audited
 - iii) Audit schedule (frequency, timeline, and coverage).
 - iv) Audit team members, including internal and/or external auditors
 - v) Audit checklists, templates, and data collection tools.
3. NARO shall integrate environmental and social audits into institutional performance monitoring systems and require periodic audits at both institutional and project levels.

5.1.3 Conduct Environmental Compliance Audits and Inspections

5.1.3.1 Guidelines that align to the requirements for conducting Environmental Compliance Audits for research activities

1. NARO shall:
 - i) Mandate periodic environmental compliance audits for all research programs, projects, and facilities on quarterly basis
 - ii) Allocate necessary resources, personnel, and funding to ensure effective audit execution
2. The ESS Unit, coordinating with the Audit Department and research teams shall:
 - i) Coordinate the planning, scheduling, and supervision of environmental compliance audits across all NARO research programs and institutes
 - ii) Ensure that research projects and activities comply with ESS policy.
 - iii) Develop and maintain audit procedures, tools, and checklists aligned with ESS standards
 - iv) Review project documents including ESIA's, ESMPs, grievance records, and monitoring reports.
 - v) Conduct routine site visits to research projects to ensure compliance and prepare environmental compliance reports.
 - vi) Maintain a central repository of audit findings, action plans, and progress reports.
3. Research teams shall be required to continuously:
 - i) Measure environmental and social phenomena against a baseline data or available information to assess potential changes in their actual or potential impacts, whether short term or long term;
 - ii) Facilitate compliance audits by ensuring availability of all records, permits, monitoring data, and ESMP implementation reports
 - iii) Evaluate the project operation using defined ESS parameters and measurable indicators to determine their effects on human health and the environment.
 - iv) Identify gaps, risks, or non-conformities, and implement corrective actions for continuous improvement.

- v) Maintain the records of risks associated with research activities making details available to authorized parties upon request.

5.1.4 Develop an Environmental Audit and inspection Tools

5.1.4.1 Guidelines that align for requirements for the development of Environmental Audit Tools

1. The ESS Unit coordinating with the Audit department shall develop customized environmental and social audit tools.
2. The tools shall include:
 - i) Environmental and social audit checklist
 - ii) Environmental and social compliance report tool
 - iii) Environmental and social scoring ranking matrices
 - iv) Non-Compliance Log (NCL)
3. The ESS unit shall periodically review and update the tools to incorporate, emerging risks, and regulatory changes
4. Research teams shall use the audit tools during self-assessments to identify potential gaps and ensure ongoing compliance
5. Research teams shall provide feedback to the ESS Unit on the practicality and effectiveness of the tools for continuous improvement.

6. POLICY ADMINISTRATION AND IMPLEMENTATION

6.1 Policy Administration And Implementation

6.1.1 ESS Institutional Setup and Coordination Mechanisms

6.1.1.1 Policy Statement 22: NARO shall establish an environment and social safeguards structures and networks under the Directorate of Research Coordination for effective administration and implementation of the ESS Policy.

6.1.1.2 Establish the ESS unit under the Directorate of Research (DR)

6.1.1.2.1 Guidelines that align to the establishment of the ESS Unit under the Directorate of Research

1. NARO shall;
 - i) Formally establish the Environmental and Social Safeguards (ESS) Unit under the Directorate of Research with clear mandate
 - ii) ESS shall spearhead the implementation of ESS activities across NARO's research projects and activities.
 - iii) ESS unit shall comprise of the Principal ESS Officer, Senior Environment Officer, Senior Gender Officer, and ESS Focal Person (ESS-FP) established at PARIs.
2. The roles and responsibilities of each staff in the ESS structure specified in 1 above are detailed in **(Appendix 21)**.

6.1.1.3 Designation of ESS-FP at PARI

1. NARO shall
 - i) Require each PARI to designate an ESS Focal Point (ESS-FP) responsible for coordinating ESS activities at the PARI level
 - ii) Ensure that the ESS-FP has sufficient capacity, resources, to carry out ESS functions effectively.
 - iii) Ensure that the nominee serve the functions specified in **(Appendix 21)** roles and responsibilities

2. The PARI director shall nominate a staff within his/ her mandate to take on roles and responsibilities of ESS at PARI level.
3. The nominee shall at least:
 - i) Be a staff within the NARO operating structure
 - ii) Preferably at officer level
 - iii) Have the ability to work within multidisciplinary research teams.
 - iv) Have demonstrated knowledge and passion for environment management.
 - v) Demonstrated ability to serve as the liaison between the PARI and the NARO ESS Unit.
4. Upon nomination, the details of the nominated officer shall be formally submitted in writing to the Director General for consideration
5. The Director General, upon review, shall confirm and approve the nominated officer as the Environmental and Social Safeguards Focal Point (ESS-FP).
6. Following approval, the ESS-FP shall serve as the lead person for all ESS-related activities at the PARI and shall execute the roles and responsibilities outlined in (Appendix 21).

6.1.2 Policy Statement 23: NARO shall establish an ESS unit under the Directorate of Research Coordination to superintend over ESS functions.

6.1.2.1 The ESS Unit and Functions

6.1.2.1.1 Guidelines for Establishing the ESS Unit

1. There shall be a functional ESS Unit under the Directorate of Research Coordination (DRC) Resident at the Secretariat (*structure in figure 5*)

6.1.2.2 Mandate of the ESS Unit

6.1.2.2.1 Description of the Mandate of the ESS Unit

1. The ESS Unit shall serve as the central coordination body responsible for overseeing the planning, implementation,

monitoring, and reporting of all Environmental and Social Safeguard functions within NARO.

2. The ESS Unit shall report to the Directorate of Research and other Directorates where necessary.

6.1.2.3 Functions of the ESS Unit

6.1.2.3.1 Description of the Unit functions

1. The ESS Unit shall:
 - i) Develop periodically update ESS policies, strategies, and operational guidelines.
 - ii) Coordinate the integration of ESS principles into research planning, design, and implementation processes
 - iii) Oversee environmental and social risk management across all research programs, projects, and activities.
 - iv) Ensure that all research activities undergo appropriate environmental and social screening, assessment, and monitoring.
 - v) Oversee the implementation of ESMPs SIAs and ESIAs.
 - vi) Conduct periodic environmental and social audits and prepare compliance reports.
 - vii) Support research teams and PARIs in implementing the ESS policy, including capacity building and technical backstopping
 - viii) Coordinate with Research Institutes and development partners.
 - ix) Maintain the ESS information system and documentation
 - x) Provide quarterly and annual ESS performance reports to management.

6.1.2.4 Performance and Evaluation of the ESS Unit

6.1.2.4.1 Guidelines that align to Performance and Evaluation structures of the ESS Unit

1. The performance of the ESS Unit shall be evaluated annually through internal performance reviews by the DR as specified in HRM manual.

2. Supported by PME, the ESS Unit shall develop measurable Key Performance Indicators (KPIs) aligned with NARO's strategic objectives and ESS standards
3. ESS Unit shall prepare and submit quarterly and annual performance reports to the Directorate of Research guided by the HRM manual.
4. Guided by HRM manual, the ESS Unit shall maintain a performance records to track implementation progress and actions across research programs and activities.

6.1.3 Policy Statement 24: The Environment and Social Safeguards Unit (ESS-U) under the directorate of research shall lead in the implementation of the ESS policy.

6.1.3.1 Overall Coordination of the ESS Activities

6.1.3.1.1 Description of the Overall Coordination of the ESS Activities

1. The ESS-U shall serve as the lead central technical and coordination body responsible for:
 - i) Rolling out the ESS Policy, planning, supervising and monitoring ESS related operations across NARO research system.
 - ii) Develop and disseminate annual ESS work plans at institutional and project levels.
 - iii) Embedding environmental and social safeguards into the design, execution, and implementation of all NARO programs,
 - iv) Ensuring compliance with national environmental laws, institutional mandates, and best practices.
 - v) ESS Focal Point Persons at PARIs shall coordinate ESS activities at their respective institutes.

6.1.3.2 Dissemination and Internalization of the ESS Policy

6.1.3.2.1 Guidelines that align to Dissemination and Internalization of the ESS Policy

1. NARO shall develop and implement a comprehensive ESS Policy dissemination plan to ensure accessibility across institutes, departments, and research programs.
2. The ESS-U shall:
 - i) Translate key provisions of the ESS Policy into user-friendly formats such as briefs, handbooks, posters, and digital content for ease of understanding and application
 - ii) Conduct institutional sensitization sessions across directorates and research institutes.
 - iii) Distribute copies of the ESS Policy (both print and digital) to all departments and key stakeholders.
 - iv) Integrate ESS policy orientation into staff induction programs.
 - v) Conduct periodic internalization workshops to evaluate the level of policy adoption and identify capacity gaps
3. PARI Directors shall ensure cascading of ESS policy awareness to all research teams, field staff, and collaborating partners under their jurisdiction

6.1.3.3 Management and access to environmental information of the ESS policy

6.1.3.3.1 Guidelines that align to Management and Access to Environmental Information of the ESS policy

1. NARO shall establish an Environmental and Social Information Management System (ESIMS) to facilitate the collection, storage, retrieval, and sharing of environmental and social data generated from research programs, projects, and activities.
2. NARO shall ensure that environmental and social information is accessible to authorized users.
3. The ESS Unit shall maintain a centralized repository or database for ESS-related documents.
4. Any person seeking specialized/confidential information on the ESS Policy provisions, shall submit a written request to the Director General and may be granted access in accordance with applicable procedures.

6.1.3.4 Development of Operational Tools and Guidance

6.1.3.4.1 Guidelines that align to the Development of Operational Tools and Guidance

1. The ESS-U shall develop and operationalize and disseminate tool to guide the integration of environmental and social safeguards in research planning and implementation. Among others shall include;
 - i) Environmental and Social Risk Screening tools,
 - ii) ESMP and ESIA templates,
 - iii) Audit checklists and compliance tracking tools,
 - iv) Grievance Redress Mechanism (GRM) templates,
 - v) Stakeholder engagement and consultation guidelines.
 - vi) Emergency Response and Preparedness Templates
 - vii) Risk Assessment and Mitigation Frameworks
2. The ESS Unit shall pilot and validate the developed tools in selected research programs or institutes to test their practicality, relevance, and effectiveness before full-scale rollout.
3. The ESS Unit shall update these tools regularly, in consultation with relevant departments, research teams, and stakeholders

6.1.3.5 Ensure effective Monitoring, Reporting, and Accountability

6.1.3.5.1 Guidelines that align to effective Monitoring, Reporting and Accountability

1. The ESS-U shall establish a safeguard monitoring system that tracks:
 - i) Policy compliance,
 - ii) Implementation of ESMPs,
 - iii) Resolution of grievances and conflicts
 - iv) Emerging environmental or social risks.
 - v) Due diligence proceedings
2. The ESS-U shall guide research teams on how to conduct inclusive, participatory consultations and obtain Free, Prior,

and Informed Consent (FPIC) during research undertakings where necessary.

6.1.4 Translation of the Policy Commitments into Strategic Actions

6.1.4.1 Policy Statement 25: NARO shall develop ESS strategy and guidelines to effectively operationalize the policy and guide its implementation across her research programs, projects and activities.

6.1.4.2 Development of the NARO ESS Strategy

6.1.4.2.1 Guidelines that align to development of ESS of the NARO ESS Strategy

1. The ESS Unit shall lead the development of the ESS policy implementation Strategy, in consultation with research teams, PARIs, and relevant stakeholders. This strategy shall include:
 - i) Clear objectives and principles for ESS implementation
 - ii) Defined roles, responsibilities, and accountability structures for ESS at institutional and project levels.
 - iii) Procedures for environmental and social risk screening, assessments, and management.
 - iv) Guidelines for monitoring, reporting, and evaluation of ESS compliance
 - v) Capacity-building and awareness-raising plans for staff, partners, and stakeholders.
 - vi) Mechanisms for stakeholder engagement, grievance redress, and inclusion of vulnerable groups
 - vii) Tools and templates to support ESS operationalization, including ESIA, ESMP, and ESAP frameworks.

6.1.4.3 Dissemination and reviews of the strategy

6.1.4.3.1 Guidelines that align to Dissemination and reviews of the strategy

1. ESS Unit shall ensure dissemination and internalization of the ESS Strategy across all research institutes and programs.

2. The ESS Unit shall periodically review and update the ESS Strategy after every (2.5yrs) to respond to emerging environmental and social challenges, regulatory changes

6.1.5 Roles and Responsibilities

6.1.5.1 Policy Statement 26: NARO shall establish clear roles and responsibilities across her organizational structure and partners through the established environment and social management system (EMS) for effective implementation of the ESS policy.

6.1.5.2 Integrate coordination mechanism through the Environmental and Social Management System (ESMS)

6.1.5.2.1 Guidelines that align to coordination mechanism through the Environmental and Social Management System (ESMS)

1. NARO shall integrate a functional coordination mechanism within the ESMS framework to ensure effective planning, implementation, and monitoring of ESS activities across all research programs, projects, and activities
2. The ESMS established under section 4.1 of the guidelines shall serve as the operational framework for implementing the ESS Policy.
3. The ESMS shall provide:
 - i) Overview of NARO's ESS Policy objectives and principles
 - ii) Relevant national environmental, social, and labor laws.
 - iii) Applicable regional and international ESS standards.
 - iv) A structured workflow for safeguard activities.
 - v) Roles, responsibilities, and accountability for ESS implementation at NARO, PARIs, and project levels
 - vi) Detailed description of the ESS Unit and ESS Focal Points functions
 - vii) A platform for coordination between technical teams, researchers, administrators, and stakeholders.
 - viii) Risk mitigation hierarchy and measures to manage identified risks.

- ix) Monitoring, Reporting, and Evaluation
- x) Stakeholder Engagement and Grievance Redress
- xi) Emergency Preparedness and Response
- xii) Documentation and Information Management
- xiii) Tools and procedures to ensure each actor knows what they are responsible for at each stage of a project or research activity.

6.1.5.3 Develop and Maintain Functional ESS committees

6.1.5.3.1 Guidelines that align to development and maintenance of ESS committees

1. NARO shall establish Environmental and Social Safeguards (ESS) Committees at institutional, program, and project levels to support effective implementation of the ESS Policy. Here referred to as the Safeguards Technical Working Committee (TWC)
2. The TWC shall consist of members from the DRC, Finance, ATP, M&E, Corporate Affairs, Audit, PARI and partners
3. The ESS Unit shall provide technical guidance for the formation, roles, and operation of these committees

6.1.5.4 Define the Roles and responsibilities of the Committees

6.1.5.4.1 Roles and Responsibilities of the Committees

1. The ESS technical working committee shall:
 - i) Review and provide guidance on ESS integration in research programs, projects, and activities.
 - ii) Ensure compliance with environmental and social standards, laws, and regulations.
 - iii) Support coordination between research teams, PARIs, and the ESS Unit.
 - iv) Monitor implementation of corrective actions and mitigation plans.
2. ESS Unit shall develop terms of reference (ToRs), standard operating procedures (SOPs), and reporting templates for committees.

3. Committees shall meet regularly, at least once a quarter, and/or as required by research activities and emerging risks
4. Minutes, decisions, and recommendations shall be documented and submitted to the ESS Unit for institutional follow-up
5. NARO shall ensure ongoing training and support for committee members to maintain their functional capacity and knowledge of environmental and social safeguards.

6.1.6 Financing of the ESS policy

6.1.6.1 Policy Statement 27: NARO shall ensure adequate resources are provided for implementation of Environmental and Social Safeguards activities.

6.1.6.2 Ensure Resource Allocation and Operational Support.

6.1.6.2.1 Guidelines aligning to Resource Allocation and Operational Support for ESS activities.

1. NARO -DR shall ensure that the ESS Unit is allocated:
 - i) A dedicated operational budget
 - ii) Tools, infrastructure, Equipment and mobility for field inspections,
 - iii) Support in accessing finance from donors and private partners
 - iv) Access to relevant project documents and platforms.
2. The ESS Unit shall oversee planning and coordination of resource needs, in line with ESS priorities

6.1.6.3 Integrate ESS financing into institutional planning and budgeting.

6.1.6.3.1 Guidelines aligning to integration of ESS financing into institutional planning and budgeting.

1. NARO shall mainstream ESS financing into the institutional planning and budgeting process to ensure sustainability of social safeguards activities.

6.1.6.4 Mobilize a diversify funding sources for ESS activities.

6.1.6.4.1 Guidelines that align to mobilization of a diversify funding sources for ESS activities.

1. NARO shall actively identify and secure multiple funding sources to support the implementation of Environmental and Social Safeguards (ESS) across all research programs, projects, and activities.
2. The ESS unit shall develop proposals and concept notes to attract external financing for ESS activities.
3. NARO shall leverage partnerships with donor, government, private sector to support environmental sustainability initiatives.

7. CAPACITY BUILDING AND TRAINING

7.1 Capacity Building and Training

7.1.1 Policy Statement 28: NARO shall support capacity building for effective implementation of environmental and social safeguards activities.

7.1.1.1 Conduct Needs Assessment and Planning

7.1.1.1.1 Guidelines that align to requirements for capacity Needs Assessment and Planning.

1. NARO shall periodically assess institutional capacity to implement Environmental and Social Safeguards (ESS) across research programs, projects and activities
2. ESS Unit with support from Human Resource and in consultation with research teams shall conduct periodic capacity needs assessments to:
 - i) Identify gaps, training needs, required skills and environmental management practices.
 - ii) Assess technical capacity, including tools, systems, and methodologies for ESS implementation.
 - iii) Stakeholders mapping and Identification.
 - iv) Develop the required Assessment Tools.
3. The ESS Unit in consultation with Human Resource Directorate (HRD) shall develop a capacity training action plan aligned with the policy goals, project operational procedures, and staff responsibilities.
4. The ESS Unit supported by the HR Directorate shall ensure gender-sensitive and inclusive approaches are applied during capacity building activities across NARO and her stakeholders.

7.1.1.2 Support Training and Knowledge enhancement programs.

7.1.1.2.1 Guidelines that align to training and Knowledge enhancement programs for ESS.

1. The ESS Unit in consultation with Human Resource Directorate shall develop annual ESS training plans identifying target

groups, training areas, and delivery methods.

2. ESS Unit shall organize, facilitate quarterly trainings, workshops, and refresher courses based on the needs assessment to staff and stakeholders on key ESS approaches, practices and implementation modalities.
 - i) Training needs shall be informed by institutional capacity assessments, emerging ESS issues, and project-specific requirements.
 - ii) Participants shall complete pre- and post-training assessments to evaluate knowledge gain.
 - iii) Feedback from participants shall be collected to improve future training programs
3. During induction and orientation, the ESS Unit, in consultation with HR, shall integrate ESS modules for new staff, project workers, volunteers, and research teams to ensure early awareness and compliance with safeguard requirements.

7.1.1.3 Develop and disseminate learning resources

7.1.1.3.1 Guidelines that align to Development and dissemination of ESS learning resources.

1. In consultation with the Communications and Digital Media Office, the ESS Unit shall develop and disseminate training and learning materials, tutorials, and newsletters on environmental management practices, social inclusion, and health and safety
2. The training materials shall be tailored for different audiences, including, research teams, ESS Focal Points, and any other target audience.
3. The ESS Unit shall organize orientation sessions, seminars, and workshops to disseminate and demonstrate the application of learning resource
4. The ESS Unit shall maintain a centralized database and resource center for all ESS-related materials for easy access and reference by research teams

7.1.1.4 Advance Technical Support and Mentorship

7.1.1.4.1 Guidelines that align to Technical Support and Mentorship for ESS in research activities.

1. NARO shall provide continuous technical support to research-to-research teams to ensure effective integration of environmental and social safeguards in all research activities.
2. NARO shall promote a culture of mentorship, knowledge sharing, and continuous improvement in ESS implementation across all levels of research.
3. The ESS Unit shall identify and maintain a pool of trained ESS focal persons and mentors within each research institute to facilitate peer learning and internal support
4. ESS Unit shall regularly conduct technical support supervision to research teams by providing hands-on guidance in environment management practices, social inclusion and health and safety.
5. Working with the Knowledge Promotion Office, the ESS Unit shall encourage and facilitate peer learning and knowledge exchange on environmental management practices, social inclusivity, participation, and social dynamics across research teams.

7.1.1.5 Leverage to Partnerships and Collaboration

7.1.1.5.1 Guidelines that align to Partnerships and Collaboration for ESS activities

1. NARO shall ensure close collaboration with Ministries, Departments and Agencies to promote capacity for research teams on environmental protection, gender equality, and social inclusion in research programs, projects and activities;
2. The collaboration shall involve;
 - i) Participating in joint planning
 - ii) Conducting Joint Trainings
 - iii) Sharing Data, Research and Technical Reports
 - iv) Engaging collectively in Advocacy and Policy Dialogue

3. The ESS Unit shall identify potential partners with complementary expertise, mandates, and resources to support ESS objectives
4. The ESS Unit shall facilitate inter-institutional collaboration among NARO institutes to harmonize safeguard practices and share experiences.
5. NARO shall facilitate relevant staff to participate in national, regional and international ESS dialogues, meetings, conferences, workshops, and professional certifications. These dialogues shall include but not limited to climate change, Biodiversity Conservation, Social economic forums and academic trainings to enhance their capacity.

7.1.2 Policy Statement 29: NARO shall actively contribute to environmental and climate change initiatives at national, regional and global levels.

7.1.2.1 Strengthen Participation in National, Regional, and Global environmental and climate change Initiatives

7.1.2.1.1 Guidelines that align to Participation in National, Regional, and Global environmental climate change Initiatives

1. To strengthen NARO's engagement and visibility in environmental and climate change platforms, NARO shall actively participate in national, regional, and global forums, programs, and partnerships on climate change and environmental sustainability.
2. The ESS Unit shall continuously scan and identify relevant national, regional, and global initiatives, conferences, partnerships, and networks on environment, climate change, and safeguards that suit NARO's priorities, plans, and policy directions.
3. The Director General in consultation with DDG-Research shall designate and facilitate representatives to participate in such environmental and social conventions, symposiums, and technical meetings on behalf of NARO to represent the agricultural research perspective.

4. In accordance with Human Resource Manuals the designated participants shall be required to report and document proceedings of the attended dialogues and ensure their contributions to agricultural research and development.
5. NARO's Directorate of Research shall plan and budget for such Conventions annually.

7.1.2.2 Strengthen Policy and Knowledge Contribution on climate change.

7.1.2.2.1 Guidelines that align to the requirements for Policy and Knowledge Contribution on climate change.

1. NARO representatives shall actively contribute to policy discussions, technical working groups, and joint programs, presenting institutional research priorities and plans aligned to climate change management
2. The ESS Unit in coordination with communications unit shall regularly update and disseminate information on environmental and climate-based events, symposiums, seminars and conferences to staff through formal NARO communication systems to ensure timely and equitable access to opportunities.
3. The ESS Unit shall ensure that knowledge on Environment and Social Safeguards is mainstreamed in research programs, projects and activities throughout the project operation cycle through conducting a needs assessment for projects at early stages of development.
4. The ESS Unit shall work with research teams to incorporate climate and environmental sustainability goals into annual research work plans and proposals.

8. REPORTING, MONITORING AND EVALUATION

8.1 Reporting, Monitoring and Evaluation

8.1.1 Policy Statement 30: NARO shall establish mechanisms for effective monitoring and evaluation of environmental and social impacts of her agricultural research programs, projects and activities.

8.1.1.1 Strengthen ESS Monitoring and Evaluation across research portfolio

8.1.1.1.1 Guidelines that align to ESS Monitoring and Evaluation across research portfolio

1. To ensure effective compliance with Environmental and Social Safeguards (ESS) across all NARO research programs, projects, and activities,
 - i) NARO shall establish and maintain a comprehensive ESS monitoring system covering all research programs and projects
 - ii) The ESS Unit shall coordinate, oversee, and provide technical support for ESS monitoring activities across all NARO research portfolios
 - iii) The ESS Unit working with the M&E unit shall perform regular monitoring of research projects and sub projects/ components to ensure compliance with environmental laws and regulations. The monitoring shall include:
 - a) Review of project documentation, stakeholder consultations, and assessment of mitigation measures.
 - b) Site inspections and field observations to project sites and research activities to verify implementation of the mitigation actions and adherence to ESS requirements
 - iv) The ESS Unit shall develop and define a set of monitoring and evaluation indicators to assess the effectiveness, efficiency, and compliance with environmental and social safeguards standards throughout project implementation.

- v) The ESS Unit shall develop and disseminate monitoring and evaluation tools, templates, checklists and score sheets to facilitate the systematic tracking, assessment, and reporting of environmental practices and social inclusion within project activities.
- vi) The ESS Unit supported by the IT department and digital media shall develop and maintain accurate monitoring records within a centralized Management Information System (MIS) to support informed decision-making on environment and social safeguards.
- vii) The ESS Unit working with M&E shall conduct regular field supervision and results-based performance tracking across research programs, projects and activities to ensure adherence to Planning, Monitoring, Evaluation Policy standards.
- viii) The ESS Unit shall adopt participatory monitoring approaches that actively engage communities, stakeholders, and beneficiaries in tracking and assessing the progress and impacts of projects and activities
- ix) The ESS Unit supported by the M&E shall compile and record monitoring data and critically review M&E reports to ensure accuracy, relevance and compliance with environmental and social policies.
- x) ESS Unit working with the internal Audit Directorate shall routinely undertake internal reviews on research projects and activities to track progress on environmental and social performance.

8.1.1.2 Integrate ESS Planning Monitoring in NARO M&E Frameworks

8.1.1.2.1 Guidelines that align to integration of ESS Planning Monitoring in NARO M&E Frameworks

1. NARO shall integrate environmental and social indicators into existing M&E systems and frameworks to measure environmental and social impacts relevant to each research programs, projects, and activities. Key performance indicators shall be defined based on the nature of the project and required scale.

2. The ESS Unit shall incorporate M&E in the sector and project level work annual plan and budgets to facilitate monitoring and evaluation of environmental and social safeguards in research programs projects and activities.
3. In collaboration with the M&E Unit, the ESS Unit shall ensure the preparation of technical reports on environmental sustainability and gender inclusivity across research programs, projects, and activities to inform evidence-based decision making
4. At project level, responsible personnel for specific research projects shall integrate M&E of Environmental and Social Safeguards (ESS) activities in their project proposals during planning and design.
5. ESS focal point persons shall be responsible for overseeing the implementation and monitoring of ESS activities at PARI level.

8.1.1.3 Support ESS Data Collection for M&E analysis

8.1.1.3.1 Guidelines that align to ESS Data Collection for M&E analysis

1. The ESS Unit shall develop standardized tools for collecting ESS data for different projects and activities at different stages to support environmental and social performance and evaluation.
2. In collaboration with the M&E Unit, the ESS Unit shall facilitate systematic data collection for programs, projects, and activities to enhance assessment and ensure positive environmental and social outcomes
3. The data shall be disaggregated based on gender, age, disability, and socioeconomic status to support differentiated outcomes.
4. For reliability and consistency, the data shall be stored in the Environmental and social information system (ESIS) for future reference.

8.1.1.4 Reporting ESS activities and performance

8.1.1.4.1 Guideline that aligns the requirements for reporting ESS activities and performance

1. NARO shall adopt standardized reporting formats and schedules for all ESS activities to ensure consistency across research projects, project and activities
2. The ESS Unit shall develop standardized ESS reporting templates and disseminate them to research teams
3. Research teams adopt standardized templates provided by the ESS Unit to ensure uniformity of reporting across all institutes.
4. The ESS Unit shall prepare quarterly and annual ESS performance reports on ESS activities against key performance indicators spelt in this guideline
5. The reports shall be submitted to Directorate of Research (DR) and other relevant Directorates for further action.
6. PARIs shall establish internal reporting systems for ESS activities in their jurisdictions
7. During submission of reports, issues of ESS shall be incorporate in their quarterly and annual reports.
8. The ESS focal point person at PARI level shall spear head the ESS reporting exercise

8.1.1.5 Strengthen Communication and dissemination of ESS matters

8.1.1.5.1 Guidelines that align to Communication and dissemination of ESS matters in NARO

1. To ensure timely, accurate, and inclusive communication and dissemination of Environmental and Social Safeguards (ESS) information, NARO shall:
 - i) Establish clear communication channels and protocols for sharing ESS information internally and externally.
 - ii) Coordinate all ESS-related communication and ensure consistent messaging across institutes, projects, and programs.

2. The ESS Unit working with communications and digital media Unit shall ensure effective dissemination of the policy and other ESS documents to relevant stakeholders in accordance with NARO formal communication channels.
3. To ensure reliability and effectiveness of ESS communication, the ESS Unit supported by the communication unit shall;
 - i) Map internal and external stakeholders, including staff, researchers, field teams, contractors, partners, and affected communities.
 - ii) Craft messages that are clear, concise, culturally appropriate, and adapted to stakeholder groups.
 - iii) Prepare materials tailored to the needs and adapted to literacy levels, language and learning styles of the target audience
 - iv) Employ diverse communication channels especially workshops, meetings, printed materials, posters, social media, and community forums.
 - v) Organize workshops, seminars, and training sessions to strengthen understanding of ESS among staff, researchers, and partners
 - vi) Establish avenues for stakeholders to ask questions, provide input, or raise concerns, such as hotlines, suggestion boxes, or meetings.

8.1.2 Policy Statement 31: NARO shall develop appropriate tools for conducting environmental and social compliance audits (ESCA), environmental and social impact assessments (ESIAs), environmental risk assessments (ERAs), mitigation and capacity training to support effective monitoring, evaluation and management of the environment and social risks in her research programs, projects and activities.

8.1.2.1 Development and Dissemination of ESS Tools

8.1.2.1.1 Guidelines that align to development and dissemination of ESS Tools

1. The ESS Unit shall develop standardized tools (checklists, templates, digital forms) for conducting ESCAs, ESIAs, and ESRAs for research projects, sub projects and activities.
2. The tools shall be designed to be adaptable for different types of research activities, field conditions, and stakeholder contexts. The tools shall be customized based on;
 - i) Extent, scope of the project, magnitude, severity and sensitivity of the projected impacts.
 - ii) Specific agricultural research activities.
 - iii) Digitized to ensure reliability, consistency and real-time monitoring.
 - iv) Participatory and inclusivity methods.
 - v) Pilots in selected projects or field sites for usability, clarity, and effectiveness
3. The development of tools shall, to the extent feasible, follow a participatory and inclusive process
4. The ESS unit shall make ESS tools accessible and user-friendly for researchers, project managers, field teams, contractors, and partners
5. The ESS Unit shall train research teams on the use of the developed tools to ensure proficient use.
6. The tools shall be updated and validated to ensure that they remain relevant to evolving research needs and environmental phenomenon.

8.1.2.2 Continuous Improvement for ESS performance

8.1.2.2.1 Guidelines that support Continuous Improvement for ESS performance

1. The ESS Unit shall schedule and conduct routine reviews of ESS tools and procedures to evaluate their effectiveness and recommend necessary improvements
2. The ESS Unit shall organize and convene reflection meetings with relevant research teams to gather user feedback

on environmental and social inclusivity and to propose innovations for continuous improvement.

3. The ESS Unit shall semi-annually review and update training modules, compliance tools, and guidelines to reflect evolving risks, emerging research trends, and best practices.

9. GRIEVANCE MANAGEMENT MECHANISMS

9.1 Grievance Management Mechanisms

9.1.1 Policy Statement 32: NARO shall establish a transparent mechanism for raising and resolving issues regarding ESS in her agricultural research programs, projects and activities.

9.1.1.1 Establish a formal Grievance Redress Mechanism

9.1.1.1.1 Guidelines aligning to the establishment of Grievance Redress Mechanism

1. NARO shall develop a formal grievance redress mechanism (GRM) accessible, transparent and culturally appropriate at all levels of research project implementation.
2. The GRM shall spell out:
 - i) Scope and Applicability of the grievances
 - ii) Various Submission Channels
 - iii) Acknowledgment and Registration proceedings
 - iv) Procedures for evaluating the grievance
 - v) Steps for resolving grievances, monitoring, reporting the grievances
 - vi) Instructions on how grievances can be escalated through the hierarchy
 - vii) Measures to ensure privacy, confidentiality, and protection from retaliation
3. The ESS Unit shall oversee the operation of the GRM, ensuring that all grievances are acknowledged, tracked, investigated, and resolved in a timely manner
4. The Grievance Redress Mechanism (GRM) for agricultural research activities shall be operationalized at PARIs, field sites, and community engagement zones to ensure accessibility and timely resolution of grievances
5. At the project level, each operational site shall develop a Grievance Redress Mechanism (GRM) tailored to its activities, ensuring alignment with NARO's institutional GRM. The site-level GRM shall;
 - i) Define its objectives, scope and purpose.

- ii) Ensure timely, transparent, and fair resolution of complaints and disputes.
- iii) Specify the types of grievances it covers.
- iv) Provide accessible channels for lodging complaints.
- v) Accommodate both verbal and written submissions.

9.1.1.2 Strengthen Grievance procedures (Submission, acknowledgement and assessment)

9.1.1.2.1 Guidelines that align to development and operationalization of the Grievance Redress procedures

1. Complainants shall submit grievances through multiple channels including;
 - i) In-person reporting to ESS focal persons or project managers.
 - ii) Dedicated email addresses or online portals
 - iii) Suggestion boxes at project sites, offices and research complexes.
 - iv) Through Community meetings, forums, or hotlines
 - v) Supported accessibility for individuals with limited literacy or special needs.
2. Upon receipt of the grievance, the ESS Unit shall acknowledge the grievance within 3 working days. Each grievance shall:
 - i) Be logged in a central Grievance Register, including details such as date received, complainant, nature of grievance, and priority level.
 - ii) The ESS Unit shall assess the grievance to determine the nature, and required response.
 - iii) Where necessary, investigation teams may be appointed, involving relevant project staff, technical experts, and stakeholders
 - iv) Ensure that investigations are impartial, transparent, and documented.
 - v) Based on investigation findings, the ESS Unit shall determine appropriate corrective actions.

- vi) Resolution timelines shall be clearly defined based on grievance complexity, with high-priority cases addressed immediately.
- vii) For future reference, the ESS Unit shall track all grievances, responses, and outcomes in a centralized database.
- 3. PARIs shall maintain centralized grievance register/log to record all complaints, including date received, nature of grievance, responsible officer, and resolution status
- 4. Research teams shall screen, categorize and classify grievances according to established criteria and procedures to ensure timely resolution. Specifically, Research teams shall;
 - i) Assess grievances based on severity, urgency, and complexity
 - ii) Prioritize high-risk grievances that may have immediate environmental or social impacts.
 - iii) Engage actively with the complainant to develop mutually acceptable solutions.
 - iv) Document all resolution actions and ensure the complainant's satisfaction before formally closing the grievance.

9.1.1.3 Strengthen Grievance Resolution and feedback Mechanisms

9.1.1.3.1 Guidelines that align to Grievance Resolution and feedback Mechanisms

- 1. Based on investigation findings, the ESS Unit shall determine appropriate corrective actions.
- 2. The complainant shall be informed of the outcome and any remedial measures taken
- 3. Resolution timelines shall be clearly defined based on grievance complexity, with high-priority cases addressed immediately

9.1.1.4 Strengthen the Management of unresolved complaints

9.1.1.4.1 Guidelines that align to management of unresolved complaints

1. If a complainant is not satisfied with the resolution at the PARI or project level, they may escalate the grievance to the ESS Unit at the coordination office for further review and resolution
2. If the grievance is still not resolved at the ESS Unit level, the complainant may further move the matter to the Director General, who shall review the case, provide a final decision in writing, and ensure that appropriate corrective actions are implemented.
3. In circumstances where the complainant is not satisfied with the resolution provided by the Director General, they may pursue further action in accordance with applicable national and international laws
4. Research teams shall ensure confidentiality and protect complainants from retaliation, safeguarding their identity and ensuring no adverse consequences for raising concerns in good faith.

9.1.1.5 Maintain records for effective grievance management

9.1.1.5.1 Guidelines that align to maintenance of records for effective grievance management

1. To ensure accurate, organized, and accessible documentation of all ESS grievances in agricultural research, NARO shall:
 - i) Maintain a comprehensive record-keeping system for all grievance submissions, investigations, resolutions, and follow-up actions.
2. The ESS Unit shall establish a central registry of all disputes arising from research activities, ensuring systematic documentation and tracking at the central coordinating office.
3. The records shall include;
 - i) Date of grievance submission
 - ii) Complainant details (protected for confidentiality)
 - iii) Nature and category of grievance (environmental, social, gender, health, safety, or general ESS compliance)
 - iv) Investigation details and responsible personnel

- v) Actions taken and resolution
- vi) Follow-up measures and feedback provided
- 4. ESS Unit shall ensure that all records are accurate, complete, and updated in a timely manner
- 5. The ESS Unit shall regularly review grievance records to identify patterns, recurring issues, for improvement purposes.
- 6. The ESS Unit shall develop a checklist for tracking and monitoring disputes.

9.1.1.6 Management of Conflict of Interest in research processes

9.1.1.6.1 Guidelines that align to management of conflict of interest associated with research processes

1. NARO shall:
 - i) Uphold the highest standards of preventing, identifying, disclosing, and managing actual, potential, or perceived conflicts of interest.
 - ii) Require research teams involved in research design, implementation, evaluation, procurement, and decision-making to declare any actual, potential, or perceived conflict of interest at every stage of research.
 - iii) Ensure that funding sources, partnerships, and sponsorship arrangements are transparently disclosed in research proposals, agreements, and publications.
 - iv) Build the capacity of research teams to recognize, disclose, and manage conflicts of interest through training, guidance notes, and sensitization sessions.
2. The ESS unit shall:
 - i) Define the conflicts which may include, but are not limited to, financial interests, personal or family relationships, professional affiliations, institutional loyalties, or external commitments that could influence objectivity
 - ii) Ensure disclosures be made using approved NARO conflict of interest declaration forms.
 - iii) Ensure that Research teams shall not engage in partnerships that compromise ethical standards, ESS principles, or scientific independence

- iv) In collaboration with relevant directorates, shall assess declared conflicts and determine appropriate mitigation or management measures.
- v) In worst scenarios, research teams shall undertake management actions including recusal from decision-making, reassignment of roles, independent oversight, or modification of research arrangements.
- vi) Ensure that No individual use their position to gain unfair advantage or influence research outcomes for personal or institutional benefit.
- vii) Maintain a confidential register of declared conflicts of interest and corresponding management actions.
- viii) Ensure that Failure to disclose or appropriately manage a conflict of interest shall be treated as a breach of the ESS Policy and managed in accordance with NARO's Human Resource Manual and applicable laws.

9.1.1.7 Consideration and protection of whistleblowers in research activities

9.1.1.7.1 Guidelines that align to consideration and protection of whistle blowers within research activities

1. NARO shall:

- i) Establish and uphold mechanisms that encourage, protect, and respond to whistleblowing in research activities to promote ethical conduct, integrity, transparency, and accountability across the research and innovation system.
- ii) Recognize whistleblowing as a legitimate and essential mechanism for identifying misconduct, non-compliance, and risks in research activities.
- iii) Ensure that whistleblowers who report concerns in good faith are protected from retaliation, intimidation, discrimination, or adverse administrative or employment actions.
- iv) Maintain strict confidentiality of whistleblower identities and information disclosed, except where disclosure is required by law.

- v) Establish and publicize clear, accessible, and secure whistleblowing channels, including reporting through the ESS Unit, designated focal persons, secure electronic platforms, or confidential written submissions.

2. The ESS Unit shall:

- i) In collaboration with relevant directorates and oversight structures, shall integrate whistleblower protection into research governance, compliance systems, and grievance mechanisms to strengthen responsible research and public trust in agricultural research and innovation.
- ii) Ensure that whistleblowing cover disclosures related to environmental harm, social safeguards violations, research ethics breaches, fraud, corruption, conflict of interest, misuse of funds, abuse of power, or any conduct that contravenes NARO policies or applicable laws
- iii) Ensure that Any form of retaliation against a whistleblower constitute a serious violation of the ESS Policy and shall be subject to disciplinary action in accordance with the Human Resource Manual.
- iv) Sensitize research teams on whistleblower rights, reporting procedures, and protections.
- v) Ensure that awareness of whistleblower mechanisms shall be incorporated into staff induction, research ethics training, and ESS capacity-building programs

3. Research teams shall:

- i) Refrain from any form of retaliation, intimidation, harassment, discrimination, or adverse action against whistleblowers or individuals associated with reported concerns.
- ii) Conduct research activities in accordance with approved ethical standards, ESS requirements, and institutional codes of conduct.
- iii) Be informed of the whistleblowing channels at project inception and throughout the research lifecycle.
- iv) Cooperate fully with whistleblower-related reviews while maintaining confidentiality and non-retaliation obligations.

- v) Ensure that project partners, consultants, and contractors are informed of whistleblower obligations and protections.
- vi) Where investigations confirm misconduct, NARO shall take appropriate corrective, remedial, or disciplinary actions in accordance with institutional policies and applicable laws.
- vii) Maintain strict confidentiality regarding whistleblower cases and shall not disclose identities, allegations, or investigation details to unauthorized persons.
- viii) Maintain accurate and complete records of research activities to support transparency and facilitate investigations where required.
- ix) Failure by research teams or individual members to comply with whistleblower guidelines shall constitute a breach of the ESS Policy.

The ESS unit shall develop step by step operational procedures for Whistleblower handling in research activities (**Appendix 24**).

10. POLICY REVIEW

10.1 Policy Review

10.1.1 Policy Statement 33: NARO shall review this policy as and when need arises

10.1.1.1 Establish a continuous policy review process

10.1.1.1.1 Guidelines that align to development of policy review process

1. NARO shall institutionalize a systematic and continuous process for reviewing and improving the Environmental and Social Safeguards (ESS) Policy to ensure its relevance, effectiveness and alignment with emerging environmental and social issues.
2. The ESS Unit shall identify and document policy areas that require review, drawing on monitoring outcomes, stakeholder feedback, emerging ES issues, and changes in applicable laws and regulations.
3. The ESS Unit shall conduct systematic assessment to inform policy improvement.
4. The ESS shall:
 - i) Gather and analyze findings from periodic ESS monitoring reports, compliance audits, and project evaluations.
 - ii) Identify recurring issues, gaps, or challenges in the implementation of ESS policy.
 - iii) Collect input from internal staff, researchers, contractors, partners, and community members through consultations.
 - iv) Maintain a register to record concerns, suggestions, and observed policy gaps for continuous reviews and actions.
5. The ESS Unit shall coordinate the policy review process to ensure that all revisions are consistent with the ES principles of this policy.
6. In Under normal circumstances, the ESS policy shall be reviewed at least once every two and a half years to ensure relevance and effectiveness.

11. BREACH OF PROVISIONS OF THE POLICY

11.1 Breach of Provisions of the Policy

11.1.1 Policy Statement 34: NARO shall require strict adherence to the provisions of the ESS Policy. Breach of these provisions will be treated as violation and shall be managed in accordance to human resource manual.

11.1.1.1 Enhance Awareness and Induction across research teams

11.1.1.1.1 Guidelines that align to awareness and induction of research teams on policy breach

1. The ESS Unit shall organize regular trainings and refresher courses for staff, contractors, and partners on ESS policy provisions
2. Working with the Human resource directorate, ESS unit shall ensure that induction programs for new employees include ESS compliance orientation
3. The ESS unit shall develop and disseminate user-friendly materials summarizing ESS obligations
4. For contract or site-based or casual workers, the ESS Unit shall organize site-level orientation sessions on ESS policy provisions, covering potential breaches, consequences, and reporting procedures.

11.1.1.2 Establish whistle blowing mechanisms for ESS policy violations

11.1.1.2.1 Guidelines that align to establishment of whistle blowing mechanisms for ESS policy violations

1. NARO shall create safe and confidential channels (email, hotline, suggestion boxes) for reporting ESS violations
2. Breaches or violations of ESS policy shall be promptly identified and reported through multiple channels to ensure timely corrective action.
3. This shall include:
 - i) Routine checks and inspections of project activities.

- ii) Periodic ESS compliance audits to assess adherence to policy provisions.
 - iii) Reports from staff and stakeholder reports.
4. Notwithstanding the above, Staff and stakeholders shall be encouraged to report suspected ESS policy breaches freely, without fear of retaliation or adverse consequences including discrimination.
 5. The ESS Unit shall document all identified ESS policy violations to support monitoring, inform corrective actions, and guide continuous improvement.

11.1.1.3 Establish a clear system for Classification of ESS policy Breaches

11.1.1.3.1 Guidelines that align to Classification of ESS policy Breaches

1. NARO shall develop and implement a structured system for classifying breaches of the Environmental and Social Safeguards (ESS) Policy according to their nature, severity, and impact on people, the environment, and institutional integrity.
2. Breaches shall be categorized according to their levels of severity, impact on people, the environment and institutional integrity.
3. Severity shall be classified as:
 - i) Minor (e.g., failure to file a report)
 - ii) Moderate (e.g., ignoring stakeholder consultation guidelines)
 - iii) Severe (e.g., environmental or social damage, human rights abuse)
4. Based on the level of classification, Severity shall determine the actions to be taken, including:
 - i) Verbal or written warnings.
 - ii) Corrective action plans based on magnitude and capacity.

11.1.1.4 Enforce disciplinary measures

11.1.1.4.1 Guidelines that align to Enforcement of disciplinary measures

1. All ESS policy breaches shall be reported to the Human Resource Directorate for disciplinary review
2. All remedial measures shall follow due process as per the NARO HR Manual for disciplinary review.
3. The ESS Unit shall provide technical evidence or reports to support disciplinary cases
4. In cases where a violation risk damaging NARO's reputation, remedial actions such as a public apology, policy reinstatement, or corrective proceedings shall be undertaken.
5. In extreme circumstances of violation that may result in detrimental environmental and social destruction, remedial actions shall be suggested, such as re-training or re-orientation of the culprit

11.1.1.5 Strengthen Documentation and Record-Keeping for ESS compliance

11.1.1.5.1 Guidelines that align to documentation and Record-Keeping for ESS compliance

1. All cases of ESS non-compliance shall be documented in detail, including actions taken and resolutions.
2. The ESS shall maintain a register of Breaches for future references.

11.1.1.6 Integrate ESS Policy provisions into Projects and MoUs

11.1.1.6.1 Guidelines aligning to integration of ESS Policy provisions into Projects and MoUs

1. NARO shall ensure that all project proposals, partnership agreements, and MoUs explicitly incorporate ESS clauses.
2. The ESS clauses shall:
 - i) Clearly define the roles, responsibilities, and obligations of all parties in ESS compliance.
 - ii) Be mandatory in all relevant contractual instruments to ensure enforceability.
 - iii) Breach consequences shall be clearly articulated and proportionate to the nature and severity of the violation.

iv) Any breaches identified shall trigger corrective actions, including possible sanctions, remediation measures, or termination of agreements as per contractual term

12. DISPUTES AND APPEALS

12.1 Disputes and Appeals

12.1.1 Policy Statement 35: NARO shall ensure disputes arising from the ESS policy are resolved in accordance with applicable laws.

12.1.1.1 Establishment of Dispute Resolution Mechanisms

12.1.1.1.1 Guidelines that align to Establishment of Dispute Resolution Mechanisms (DRMs)

1. NARO shall establish dispute resolution mechanisms to manage conflicts arising from research and development activities, environmental and social safeguards issues, or stakeholder interactions.
2. Dispute resolution shall be guided by principles of fairness, transparency, impartiality, confidentiality, and timeliness.
3. The Mechanisms shall be accessible to all stakeholders, including staff, researchers, partners, contractors, and affected communities.
4. In circumstances of conflicts arising from the implementation of the ESS Policy, the Environmental and Social Dispute Resolution Mechanism (ESDRM), as applied through the Grievance Redress Mechanism (GRM) specified in Chapter 9, Policy Statement 32(i), shall be invoked to facilitate fair, timely, and lawful resolution.
5. The mechanism shall;
 - i) Clearly define the stages and pathways for addressing disputes, from informal resolution to formal appeals.
 - ii) Integrate the dispute and appeal process into NARO's wider grievance redress mechanism (GRM).
 - iii) Apply the right to be heard, neutrality of the decision-maker, and access to supporting information.
 - iv) The mechanism for resolving disputes shall follow procedures specified in chapter nine under (GRM) and also reflected under procedures management of conflict in research proceedings (**Appendix 24**).

APPENDICES

Appendix 1: Matrix for General Considerations in an ESIA

In the preparation of a project's Environmental and Social Impact Assessment, the following are taken into account:

ITEM	DESCRIPTION
1. Ecological considerations	
(a) Biological diversity, including—	i) Impact of the proposed project on species richness, diversity, breeding habits of animals and vegetation; ii) Gene pool of domesticated plants and animals.
(b) Sustainable use and management, including impacts of proposed project on—	i) Soil productivity; ii) Populations of animals; iii) Natural vegetation; iv) Aquatic and wetland resources; v) Livelihoods of local communities and indigenous people's dependent on living natural resources.
(c) Ecosystem sustenance, including impacts of proposed project on—	i) Interactions in nutrient cycles; ii) Ecosystem functions and services; iii) Surface and ground water hydrology
2. Physical environment	
(a) Landscape—	i) Easements, including views, visual impact and right to natural air passage; ii) Compatibility with surrounding area; iii) Amenity opened up or closed, including recreation possibilities.
(b) Water -	i) Water sources, including water quantity and quality; ii) Rivers and streams, including drainage patterns and drainage systems; iii) Lakes, including natural and man-made lakes; iv) Springs and aquifers; v) Water flow regimes.

(c) Air quality—	i) Type and number of possible emissions and pollutants; ii) Effects on air quality of the area.
(d) Resource efficiency and pollution management—	i) Use of circulative resources, including resource effectiveness and efficiency; ii) Pollution prevention and management, including chemical and waste management;
(e) Climate change and climate variability—	i) Practices and activities likely to contribute climate benefits, including use of clean energy and carbon sequestration; ii) Products and processes using greenhouse gases, and potential level of carbon footprints; iii) Measures proposed for adaptation and mitigation.
3. Social considerations	
(a) Land Acquisition and Land Use—	i) Re-settlement and compensation, including impacts on displaced persons and host communities; ii) Impacts of the proposed project on existing land use and potential alternative land use; iii) Possibility of multiple uses of land; iv) Restrictions on land-use;
(b) Impacts on economic activities and property rights, particularly where persons are or are likely to be affected economically or may experience personal disadvantage which may result in a violation of their human rights;	
(c) Opportunities for employment and wealth creation;	
(d) Occupational health and safety, including fair treatment of workers and provision of equal opportunities;	
(e) Impacts on human health and wellbeing, including physical, mental, social and spiritual wellbeing;	
(f) Impacts on culture and heritage, including the culture of the people, especially indigenous peoples and local communities, in respect of their shared beliefs, identity, aspirations, customs, values, language or dialect;	

(g) Impacts related to way of life, social interactions, cohesion or disruption;
(h) The fears and aspirations of the project-affected communities about their safety or the future of their community;
(i) Impacts on population size and structure, including gender, age and vulnerable groups;
(j) Social services and amenities;
(k) Level of stakeholder engagement, including an understanding of the extent to which people are interested in and support the project, and are able to participate in decisions that affect their lives, and the likely resource needs for this purpose.

Appendix 2: Format for Environmental and Social Risks Assessment

ITEM	DESCRIPTION
1. Cover Page of the ESRA.	i) Title of the proposed research project/ activity. ii) Location of research proposed project or nature of proposed research activity. iii) Name, address and contact information of the research team. iv) Date of submission.
2. Format of ESRA.	i) Declaration sheet signed by the technical person(s) who undertook the ESRA. ii) Executive summary. iii) Acknowledgement. iv) Acronyms. v) Details of the technical person(s) who undertook the assessment, including their names, contact details, and areas of expertise. vi) Structure of the ESRA: (a) Introduction; (b) Findings; (c) Summary and Conclusions; (d) A reference list detailing the sources used for the descriptions and assessments included in the ESRA; and (e) Appendices.
3. Content of the ESRA.	i) A description of the proposed research project or activity, including the name, purpose and nature of the project or activity. ii) Methodology of work. iii) The proposed location and physical boundaries, including maps and coordinates, and the site lay out plan of the research project, clearly showing the projected area of land or air that may be affected by the research project, or activities, or, if it is—

- a) A linear activity, a description of the route of the activity and analysis of site selection procedure and alternative routes; or
 - b) An activity on a water body, the coordinates within which the activity is to be undertaken;
- iv) Hazard identification for environmental, social and health risks or hazards associated with the agricultural research project(s) or activity(ies), including—
 - a) Analyzing existing assumptions and existing norms of design and operation to test the limits of the assumptions and norms;
 - b) Evaluating the effectiveness of management systems, controls and procedures as appropriate;
 - c) Considering the possibility that issues identified and rated as minor and insignificant, may become severe or high risk in subsequent phases of the research project because of other factors that may trigger and magnify those issues;
 - d) Considering hazards relating to all phases of the research project or activity, including construction, operational and decommissioning phases of the project; and
 - e) Scenario setting and selection.
- v) Vulnerability analysis, including potential exposure of the environment and human beings to a risk or hazard;
- vi) Risk analysis, including—
 - (a) Setting risk probability and consequence;
 - (b) Risk mitigation measures;
 - (c) Risk acceptance criteria; and
 - (d) Classification or categorization of risk incidents.

- vii) Risk response based on the risks identified and analyzed, including a zero or no-project alternative, but where the project is to take place, alternative project locations or technologies to be used, and an indication of the justification for selecting the chosen option;
- viii) The projected cost of the project or activity and size of the workforce;
- ix) A description of the manner in which the proposed project or activity conforms to existing laws and standards governing such projects or activities;
- x) An indication of permits, licenses or other approvals that may be required for the project or activity;
- xi) Baseline conditions of the physical, biological and socio-economic environment of the project area, including results of relevant studies;
- xii) An emergency preparedness and response plan;
- xiii) Evidence of stakeholder consultation;
- xiv) Any other information required by the ESS Unit as applicable in the ESS Policy.

Appendix 3: Environmental and Social Risk Monitoring Form

ENVIRONMENTAL AND SOCIAL RISK MONITORING FORM FOR PARIs

Please provide responses to the questions below. Please include additional sheets or attachments as required to provide details on questions that have been answered “Yes”.

Name of PARI:		
Completed by (name):	(To be filled by the ESS Focal Person/representative)	
Position in the PARI:		Date:
Reporting period	From:	To:

Guiding tool for Environmental & Social Management System (ESMS)

General	Yes/No	
Has the PARI developed and implemented an ESMP, PMP and any other environmental and social instruments?		<i>If yes, please attach a copy of the environmental and social documents to this report.</i>
Name and contact information of the main responsible staff who has the overall responsibility for the implementation of the PARI's ESMS.		
Please provide current staffing of other core ESMS persons in the PARI involved with ESMS implementation.		

Environmental and Social Yes/No Procedures

Has the PARI recently updated its: • Environmental and Social procedures, • OHS procedures. • Stakeholder Engagement Plan. • Grievance Mechanism.		
Has PARI management signed off on the required policies/procedures (environmental and social procedures, OHS procedures)?		<i>If yes, please provide the date and internal communication indicating the same.</i>
If there is an ESMS already in place, have there been any updates to the ESMS or policy and procedures adopted by the PARI during the reporting period?		<i>If yes, please provide a copy of the updates including dates and reasons for the same.</i>
State any difficulties and/or constraints related to the implementation of the Environmental and Social procedures.		
Capacity	Yes/No	
Are the roles and responsibilities of the staff well defined and understood as per the implementation of the ESMP, PMP and other environmental and social instruments?		<i>Please provide details about the definition of the roles and responsibilities. Please describe the training (if any) provided to the ESMS persons and other team members during year.</i>

Monitoring		Yes/No
Is there an internal monitoring and review plan?		<i>If yes, please describe the plan and its processes, also considering it against the performance and processes indicators</i>
Has the PARI implemented an external communication and grievance mechanism?		<i>If yes, please summarize the operations of the grievance mechanisms for both project issues and labor issues</i>
Reporting		Yes/No
Is there an internal process to report internally on Environmental and Social issues?		<i>If yes, please explain the process, reporting format and frequency and actions taken if any.</i>

Appendix 4: ESS Stakeholder Engagement Plan (SEP) Guide

The ESS - SEP should be clear and concise and focus on describing the project and identifying its stakeholders. It is key to identify what information will be in the public domain, in what languages, and where it will be located. It should explain the opportunities for public consultation, provide a deadline for comments, and explain how people will be notified of new information or opportunities for comment. It should explain how comments will be assessed and taken into account. The SEP should also commit to releasing routine information on the project's environmental and social performance, including opportunities for consultation

1. Introduction/Project Description

Briefly describe the project, the stage of the project, its purpose, and what decisions are currently under consideration on which public input is sought.

Describe location and, where possible, include a map of the project site(s) and surrounding area, showing communities and proximity to sensitive sites, and including any worker accommodation, lay-down yards, or other temporary activities that also may impact stakeholders.

2. Brief Summary of Previous Stakeholder Engagement Activities

If consultation or disclosure activities have been undertaken to date, including information disclosure and informal or formal meetings/or consultation, provide a summary of those activities, the information disclosed, and where more detailed information on these previous activities can be obtained.

3. Stakeholder identification and analysis

Identify key stakeholders who will be informed and consulted

about the project, including individuals, groups, or communities that:

- i) Are affected or likely to be affected by the project (project-affected parties);
- ii) May have an influence over the project and its activities; and
- iii) May have an interest in the project (other interested parties).

3.1. Affected parties

Identify individuals, groups, local communities, and other stakeholders that may be directly or indirectly affected by the project, positively or negatively. The SEP should focus particularly on those directly and adversely affected by project activities.

3.2. Other interested parties

Identify broader stakeholders who may be interested in the project because of its location, its proximity to natural or other resources, or because of the sector or parties involved in the project.

3.3. Disadvantaged / vulnerable individuals or groups

It is particularly important to understand project impacts and whether they may disproportionately fall on disadvantaged or vulnerable individuals or groups, who often do not have a voice to express their concerns or understand the impacts of a project. The following can help outline an approach to understand the viewpoints of these groups:

- Identify vulnerable or disadvantaged individuals or groups and the limitations they may have in participating and/or in understanding the project information or participating in the consultation process.
- What might prevent these individuals or groups from participating in the planned process? (For example, language differences, lack of transportation to events, accessibility of venues, disability, gender norms, lack of understanding of a consultation process).
- How do they normally get information about the community, projects, activities?

- Do they have limitations about time of day or location for public consultation?
- What additional support or resources might be needed to enable these people to participate in the consultation process?

4 Stakeholder Engagement Program

4.1 Purpose and timing of stakeholder engagement program

Summarize the main goals of the stakeholder engagement program and the envisaged schedule for the various stakeholder engagement activities: at what stages throughout the project's life they will take place, with what periodicity, and what decision is being undertaken on which people's comments and concerns. If decisions on public meetings, locations, and timing of meetings have not yet been made, provide specific information on how people will be made aware of forthcoming opportunities to review information and provide their views.

4.2 Proposed strategy for information disclosure

Briefly describe what information will be disclosed, in what formats, and the types of methods that will be used to communicate this information to each of the stakeholder groups.

The selection of disclosure—both for notification and providing information—should be based on how most people in the vicinity of the project routinely get information.

The strategy should include means to consult with project-affected stakeholders if there are significant changes to the project resulting in additional risks and impacts.

4.3 Proposed strategy for consultation

Briefly describe the methods that will be used to consult with each of the stakeholder groups.

4.4 Proposed strategy to incorporate the view of vulnerable groups

Describe how the views of vulnerable or disadvantaged groups will be sought during the consultation process. Which measures

will be used to remove obstacles to participation? This may include separate mechanisms for consultation and grievances, developing measures that allow access to project benefits, and so forth.

4.5 Timelines

Provide information on timelines for project phases and key decisions. Provide deadlines for comments.

4.6 Review of Comments

Explain how comments will be gathered (written and oral comments) and reviewed, and commit to reporting back to stakeholders on the final decision and a summary of how comments were taken into account.

4.7 Future Phases of Project

Explain that people will be kept informed as the project develops, including reporting on project environmental and social performance and implementation of the stakeholder engagement plan.

5. Resources and Responsibilities for implementing stakeholder engagement activities

5.1 Resources

Indicate what resources will be devoted to managing and implementing the Stakeholder Engagement Plan, in particular:

- Who is in charge of the SEP?
- Confirm that an adequate budget has been allocated toward stakeholder engagement
- Provide contact information if people have comments or questions.

5.2 Management functions and responsibilities

Describe how stakeholder engagement activities will be incorporated into the project's management system and indicate what staff will be devoted to managing and implementing the Stakeholder Engagement Plan:

- Who will be responsible for carrying out each of the stakeholder engagement activities and what are the qualifications of those responsible?
- How involved will management be in stakeholder engagement?
- How will the process be documented, tracked, and managed?

Appendix 5: Considerations for Research Projects for Mandatory ESIA

PROJECT COMPONENT	SUB-PROJECT CATEGORY
1. Transport, Equipment and Related Infrastructure	(a) Construction of research facility roads not being institutional access roads, including— (i) Enlargement or upgrade of existing research roads. (ii) Construction of parking facilities, at major research infrastructures. (b) Construction of roads to aid specific research projects, including in-field roads. (c) Construction of large research mechanical workshop and equipment inspection centers, with a capacity of 50 or more vehicles. (d) Water transport facilities including— (i) Construction of new, or expansion of research harbor facilities, jetty and pier development for loading and unloading connected to land. (e) Support facilities and auxiliary components to (a) to (d).
2. Communications facilities.	(a) Construction of major research installations, equipment and related facilities. (b) Construction and expansion of satellite stations. (c) Support facilities to (a) to (b).

3. Utilization of water resources and water supply.	(a) Abstraction or utilization of surface water for agricultural use of more than 1000 m³/day. (b) Abstraction or utilization of ground water of more than 1000m³/day. (c) Diversion of water from a river or stream, where the water discharged is more than 400m³/day or 30% of Internal Renewable Water Resources over the river catchment. (d) Dredging of a river or lake. (e) Underground storage of water of 10,000m³ or more. (f) Bulk water transfer from one catchment or water body to another. (g) Flood control schemes. (h) Construction of valley dams and valley tanks where the threshold is 1,000,000 m³ or more. (i) Construction of water pipelines of more than 20 kilometers in length or with a capacity of more than 500,000 m³ per day of water. (j) Construction of large-scale gravitational water schemes of more than 1000 m³/day or where the ecosystem is fragile and sensitive. (k) Support facilities to (a) to (j).
4. Institutional Housing and development.	(a) Construction and expansion of educational and research institutions.

PROJECT COMPONENT	SUB-PROJECT CATEGORY
5. Agricultural investments, livestock, range management and fisheries.	(a) Large scale cultivation of 20 hectares and more. (b) New biological pest and disease control measures. (c) Large scale application of agro-chemicals for disease and pest control. (d) Large scale irrigation of more than 20 hectares. (e) Construction of feedlots in densities that exceed 1000 cattle livestock units and 2000 units for other livestock. (f) Construction of facilities for commercial aquaculture of 200,000 kilos per year or of an area of one hectare. (g) Establishment of industrial or commercial fish processing plants. (h) Establishment of fish cages for commercial production. (i) Establishment of aquaculture parks. (j) Support facilities to (a) to (i).
6. Nature conservation areas.	(a) Introduction of new or alien research species; including microorganisms to local ecosystems. (b) Commercial exploitation of fauna and flora for research purposes. (c) Establishment of ranches for livestock breeding. (d) Support facilities to (a) to (c).
7. Forestry.	(a) Gazetting or degazetting of forest estates. (b) Conversion of forested land to other land uses. (c) Introduction of new tree species. (d) Commercial charcoal production. (e) Extraction of rubber and resins. (f) Establishment of plantations of more than 500 ha. (g) Support facilities to (a) to (f).

8. Extraction of non-mineral products.	(a) Extraction of sand, murrum and clay of at least 5m ³ per day.
9. Waste management facilities.	(a) Transportation of hazardous waste. (b) Hazardous waste storage and treatment facilities. (c) Construction of waste management facilities, including— (i) Landfills. (ii) Incineration plants. (iii) Recovery/recycling plants. (iv) Composting plants. (v) Waste water/effluent treatment plant. (vi) Sewage treatment plants. (d) Facilities for the disposal of asbestos. (e) Facilities for manufacture of veterinary inputs. (f) Aerial spraying using chemicals.

Appendix 6: List of research projects that require Approval prior implementation

PROJECT COMPONENT	SUB-PROJECT CATEGORY
1. Transport, Equipment and Infrastructure	i) Rehabilitation of institutional roads passing through fragile ecosystems. ii) Construction of new institutional roads of more than 6 meters in width (including those joining national roads). iii) Construction of parking lots for research use with capacity to hold at least 50 vehicles. iv) Construction of institutional tracks in protected areas. v) Rehabilitation of existing institutional structures. vi) Support facilities for the above activities.
2. Utilization of Water Resources and Water Supply	i) Abstraction or utilization of surface water for agricultural use of more than 400 m³/day but less than 1000 m³/day. ii) Abstraction or utilization of ground water of more than 1000 m³/day. iii) Construction of gravitational water schemes of between 400 m³/day and 1000 m³/day. iv) Diversion of water from a river or stream, where the water discharged is less than 400m³/day.
3. Agriculture, Livestock, Range Management and Fisheries	i) Irrigation of between 5 to 20 hectares. ii) Small scale livestock rearing of between 10 to 50 heads of livestock when situated in an urban area. iii) Construction of feedlots in densities of 500-999 cattle livestock units and 1000 units for other livestock. iv) Installations for the intensive rearing of birds or pigs. v) Support facilities for the above activities.

4. Nature Conservation Areas	i) Creation of research protected area buffer zones and corridors. ii) Creation of buffer zones in environmentally sensitive areas. iii) Support facilities for the above activities.
5. Extraction of Non-Mineral Products	i) Extraction of sand, marl and clay (between 2m³ and 5m³ per day).
6. General	i) Any activity out of character with its surroundings. ii) A structure of a scale not in keeping with its surroundings. iii) Minor land use changes in areas with slopes >20% (including housing construction).

Appendix 7: Agro Research Projects Exempted From EIA/ESIA.

PROJECT COMPONENT	SUB-PROJECT CATEGORY
1. Transport, transportation equipment and related infrastructure	i) Opening up of institutional access and feeder roads. ii) Construction of drainage channels. iii) Upgrading of institutional access and feeder roads to bitumen standards. iv) Temporary roads for access to research infrastructure facilities. v) Construction of walkways. vi) Construction of parking lots for institutional use (capacity 30-50 vehicles). vii) Support facilities for the above activities.
Utilization of Water Resources and Water Supply	i) Construction of research water points. ii) Construction of small-scale gravitational flow schemes. iii) Extension of piped water at research stations. iv) Support facilities for the above activities.
Agricultural Research Housing and Development	i) Construction of planned staff housing (1 to 2.5 acres). ii) Construction of research administrative blocks. iii) Construction of sanitary facilities. iv) Establishment of green spaces and tree planting. v) Construction/expansion of day-care facilities. vi) Support facilities for the above activities.
Agricultural Investments, Livestock, Range Management and Fisheries	i) Establishment of farming demonstration sites. ii) Construction of livestock slaughter slabs. iii) Construction of biomass energy conservation projects. iv) Support facilities for the above activities.

2. Forestry	i) Selective removal of single tree species over an area of 4 acres. ii) Firewood extraction and harvest of non-wood forest products. iii) Establishment of plantations (250ha to 500 ha). iv) Support facilities for the above activities.
Extraction of Non-Mineral Products	i) Extraction of sand, marl and clay of less than 2m³ per day.
3. Waste Management Facilities	i) Construction of sanitary/waste collection facilities at institutes. ii) Construction of waste bunkers and collection sites. iii) Temporary waste storage facilities for garbage. iv) Support facilities for the above activities.

Appendix 8: ESS risk categorization

RISK CATEGORIZATION	DESCRIPTION/CRITERIA FOR ESS RISKS AND IMPACTS	ACTIONS
Low	• Minimal or negligible risks to and impacts on human populations and/or the environment. • Few or no adverse risks and impacts and issues. • No further assessment after screening.	
Moderate	• Risks and impacts not likely to be significant • Not complex and/or large. • Predictable and expected to be temporary and/or reversible; • Low in magnitude; • Site-specific, without likelihood of impacts beyond the project footprint; • Low probability of serious adverse effects to human health and/or the environment • Routine safety precautions are expected to be sufficient to prevent accidents	
High	• Significant impacts, severe, sensitive, and high magnitude. • Further assessment required.	

Appendix 9: Environmental and Social Risk Ranking Criterion

SECTION A: CATEGORY A AND B

Risk rating criteria		Yes	No
<i>For any new project:</i>			
1	Does the research project, or activity have any compliance issues that require environmental clearance?		
2	Is the research project, or activity located in the immediate vicinity (likely to cause adverse impact) of environmentally critical areas (national parks, wetlands, wildlife habitats, important bird areas, and protected areas)?		
3	Does the research project, or activity, or construction and/or operation lead to environmental impacts that are diverse, irreversible and/or unprecedented ⁵ in nature?		
4	Does the research project, or activity require involuntary resettlement that results in loss of land or livelihood or physically displaces more than 500 people?		
5	Is the research project, or activity site on or in immediate vicinity of socially vulnerable or indigenous people owned or occupied land and has the potential to cause an adverse impact on their culture and identity?		
6	Is the proposed research project, or activity likely to increase vulnerability to climate change now or in the future and/or exacerbate climate change (by significant greenhouse gas emissions)?		
Section B: ESS Capacity Implementation			
7	Does NARO have a documented policy or framework on E&S safeguard?		
8	Does NARO have dedicated human resource to address E&S performance?		
9	Has NARO established and implemented environmental, health & safety management systems and social accountability systems and/or gender policy?		

E & S Risk Description	
Risk category	Description
High risk (Category A)	Based on Table (.....) above, if any question numbered 1 to 6 is answered as Yes, the E&S risk is rated “high”.
Moderate risk (Category B)	If all the questions numbered 1 to 6 are a NO and at least one of the questions numbered 7 to 9 is a NO, then the E&S risk is “Moderate”.
Low Risk (Category C)	If all questions numbered 1 to 6 are a No and all questions rated 7 to 9 are a Yes then the Project E&S Risk is rated as “Low”.

Appendix 10: ESMP Checklist for Agricultural Research Institution Activities

PART A: GENERAL PROJECT AND SITE INFORMATION

INSTITUTIONAL & ADMINISTRATIVE				
Country				
Agricultural Research Institution				
Scope of project and activity				
Institutional arrangements (Name and contacts)	ESS Representative (Project Team Leader)	PARI Representative	Project Site Manager	
Implementation arrangements: (Name, contacts, key responsibilities)	E & S Risk Management Supervision	Contactor(s)	Sub-Contactor(s)	Any other representative
SITE DESCRIPTION				
Name of site				
Describe site location (if multiple sites, attach details for each)			Attachment 1: Site Map [] Y [] N	
Excluded activities: Confirm that the project does not involve any excluded activities (Note: Presence of some excluded activities can be determined only after a screening has been completed)				

Who owns the land? Are there any encroachers or informal users of the land? What is the previous use of land?	
Description of geographic, physical, biological, geological and socio-economic context	
Locations and distance for material sourcing, especially crops, water, pesticides, fertilizers	
Identify any potential climate-related issues.	
PEOPLE AFFECTED BY PROJECT	
Are there people affected by the project?	
How many people affected by the project?	
Will the people's livelihoods be affected by the project? If so, how?	
Have OHS risks and impacts been explained to the affected people?	
Have the E&S aspects of research been explained to the affected people?	

Are there issues of forced labor, human trafficking and child labor? (Explain)		
LEGISLATION		
Identify, where applicable, regional, national legislation & permits related to project activities		
STAKEHOLDER ENGAGEMENT/PUBLIC CONSULTATION		
Identify key stakeholders		
Identify when and where consultations are required.		
Indicate how stakeholders will remain engaged in the project		
Summarize key issues raised in the consultations and how the project is addressing them		
INSTITUTIONAL CAPACITY BUILDING		
Will there be any capacity building?		[] N or [] Y if Yes, Summarize the capacity-building activities:

ENVIRONMENTAL AND SOCIAL RISKS & IMPACTS	
Is there any natural habitat in the area where the project is to be implemented?	
Is there any water source(s) that may be affected by the project proceedings?	
Does water scarcity exist in the area?	
Is there any protected forest estate in the proposed project area?	
Will the project have a potential to introduce alien species?	
Identify the potential social risks and impacts initiated by the project implementation?	
Propose the mitigation measures in this regard.	
Identify specific risks that each vulnerable group may face.	

GRIEVANCE MECHANISM (GM)	
GM description consisting of budget, formal management mechanism, clear communications, procedures for handling complaints, timelines, contacts, logbooks for complaints, and complaint submission procedures.	
LABOR AND WORKING CONDITIONS	
Workers and working conditions on-project site and off-project site (description of working conditions and number of workers, if applicable)	
Assessment of key labor risks and measures to be implemented	

PART B: ENVIRONMENTAL AND SOCIAL RISK INFORMATION

ENVIRONMENTAL /SOCIAL SCREENING		Environmental Impacts	Status	Triggered Actions
Will the project activities include/ involve any of the following?	A. Solid and/or Liquid Waste Pollution	☐ Yes ☐ No	See Section A below	
	B. Use of Fertilizers and Pesticides	☐ Yes ☐ No	See Section B below	
	C. Water Scarcity/Salinity	☐ Yes ☐ No	See Section C below	
	D. Soil Degradation	☐ Yes ☐ No	See Section D below	
	E. Carbon Footprint	☐ Yes ☐ No	See Section E below	
	F. Natural Resource Depletion	☐ Yes ☐ No	See Section F below	
	G. Occupational Health and Safety (OHS)	☐ Yes ☐ No	See Section G below	
	H. Biodiversity Loss	☐ Yes ☐ No	See Section H below	
	Social Impacts	Status	Triggered Actions	
	I. Labor and working conditions	☐ Yes ☐ No	See Section I below	
	J. Participation of vulnerable groups (women, PwDs, elderly, youth, poor, etc.)	☐ Yes ☐ No	See Section J below	
K. Sexual Exploitation and Abuse/ Sexual Harassment	☐ Yes ☐ No	See Section K below		

PART C: APPLICATION OF MITIGATION MEASURES

DESCRIPTION OF RISK	MITIGATION MEASURES CHECKLIST
A. Waste management – solid and liquid wastes	(a) Encourage incorporating the cost of the responsible management of waste. (b) Engage with agricultural industry, regulators, and NGOs to explore practical waste management solutions. (c) Establish proper waste management systems and channel. (d) Provide internal training on waste management processes. (e) Promote reuse, recycling or energy recovery. (f) Implement Environmental Management Systems.
B. Use of Pesticides and Fertilizers	(a) Use National Pest Management Plans (PMPs); (b) Promote Integrated Pest Management (IPM) strategy; (c) Follow Biosafety and Biosecurity Guidelines for centers; (d) Include capacity-building for IPM
C. Water scarcity/salinity	(a) Set measures for resource efficiency; (b) Establish water management practices; (c) Implement strategy/management plans of rainwater harvesting, and wastewater reuse and water conservation measures (d) Improve irrigation practices. (e) Raising awareness on sustainable water management.
D. Soil degradation	(a) Promote best soil management practices. (b) Provide training on sustainable soil management practices.

E. Carbon footprint	(a) Employ practices linked to climate change mitigation strategies. (b) Employ practices that explore the options for carbon capture. (c) Provide awareness and capacity building programs.
F. Natural Resource Depletion	(a) Use renewable energy as much as possible. (b) Promote natural resource management; and practice conservation systems.
G. Occupational Health and Safety	(a) Risk of Fire and Explosion: First aid, firefighting, emergency procedures. (b) Chemical Hazards: Exposure to hazards products including pesticides and herbicides through inhalation, ingestion or dermal contact (recommendations include use of alternative products with lower OHS risk, adopt means for personal and collective protection such as special boots, water repellent clothes and ventilated systems at work place; train personnel on hazardous product and management storage; ensure hygiene practices are followed). (c) Biological Hazards: Contact with venomous animals, such as stinging insects, spiders, scorpions, snakes, disease vectors (mitigation measures include use of insect repellent; wear appropriate protective clothing including PPE, train personnel and have onsite first aid equipment); HIV/AIDS/STD risks will be managed through periodic outreach sessions, including advice on services by local health clinics.

	(d) Physical Hazards: i. Operational and workplace hazards: Slips, trips and falls due to inadequate workplace; Ergonomic hazards from manual handling and repetitive movements; overexposure to noise vibrations from hand-held equipment or drastic weather conditions; wounds from equipment or sharp objects (these risks should be managed in line with general EHS guidelines). ii. Machineries and vehicles: Accidents may occur during use of machines and vehicles, including worker transportation, farm machineries, and a variety of other tools used during research, which may result in personal/fatal injury, damage or loss of asset. iii. Confined and restricted space entry: Risk of asphyxiation; explosions due to gas, dust, or fumes (e.g., residual petroleum fumes); and entrapment or enclosure within the confined space (restricted areas should be clearly marked and clearly conveyed to personnel and contractors). iv. Exposure to organic dust: Exposure of workers to dust while handling, and storage of crops/plants/seeds, which generate potentially high concentrations of organic dust, including particles from fungi, and bacteria, as well as inorganic material (recommendations for dust control in line with general EHS guidelines).
H. Biodiversity loss	(a) Follow biodiversity indices (related to habitat set-asides, flora densities, and prohibition of high conservation value land); (b) Prohibition against introducing invasive alien species

	(c) All recognized natural habitats, wetlands and protected areas in the immediate vicinity of the activity will not be damaged or exploited; adjacent wetlands and streams shall be protected from agricultural run-off with appropriate erosion and sediment control (d) Provision of capacity-building and awareness to prevent natural resources depletion (e.g., reduce/eliminate agronomic practices such as mono-cropping, destruction of natural habitats, over-exploitation of natural stocks of fish and forests); (e) Employment of relevant ICT applications
I. Labor and working conditions	(a) Prepare Labor Management Procedures based on national requirements and NARO ESS Policy 7. (b) No forced labor in the project; child labor restrictions, human trafficking restrictions. (c) Develop and implement a proper grievance redress mechanism for labor complaints. (d) Provide proper training and records on the employment system and working procedure (e) Include measures to address OHS and SEA risks, including codes of conduct (f) Aim to include vulnerable groups in project stakeholder engagement and activities
J. Participation of vulnerable groups	(a) Ensure stakeholder engagement, communications/outreach to vulnerable groups. (b) Engage women as valuable partners in the agricultural research activities, including, where relevant, women's organizations, farmers' cooperatives, civil society and non-governmental organizations

	(c) Engage vulnerable groups in project activities with a view to strengthening their livelihood capacities and opportunities (d) Reinforce capacity building for women agricultural researchers and farmers supporting the research
K. Sexual Exploitation and Abuse/Sexual Harassment (SEA/SH)	(a) Train and build the capacities of stakeholders to raise awareness on Sexual Exploitation and Abuse (SEA)/Sexual Harassment (SH) prevention and mitigation measures. (b) Establish a code of conduct for project workers to prevent SEA/SH. (c) Develop a mechanism to identify and handle GBV issues. (d) Ensure a Grievance Mechanism is sensitive to SEA/SH complaints.

PART D: MONITORING PLAN

Phase	What risks need to be monitored?	Where are the risks being monitored?	How are the risks being monitored?	When are the risks being monitored? (Define the frequency / or continuous?)	Why are the risks being monitored?	Costs? (if not included in project budget)	Who is responsible for the monitoring?
During activity preparation							
During activity implementation							
During activity supervision							

Appendix 11: Description of ESMS and its contents.

CONTENTS	DESCRIPTION
Policy and Legal Commitment	demonstrates NARO's formal pledge to environmental protection, compliance with laws/regulations, and continuous improvement.
ESIA and ESRA checklists.	Ensure that before any new research project, program, or agricultural innovation is approved, its potential environmental and social impacts are systematically identified, assessed, and documented. Support the planning stage of the EMS cycle by ensuring environmental and social risks are anticipated before activities begin. Support the do-check-act phases of the EMS cycle by ensuring ongoing risk identification, mitigation, and corrective action.
Environmental and social Planning	Provides the strategic framework to guide projects, programs, and daily operations so they align with sustainability goals and compliance obligations.
Requirements related to environment and social management (community, labor, occupational health etc).	Provides a strategic framework to address Pollution Prevention & Control, Resource Efficiency, Climate Change & Resilience, Stakeholder Engagement, Fair Employment Practices, Hazard Identification & Risk Management, and Capacity Building.
Purpose, objectives, scope, procedures, roles and responsibilities, and related documentation.	Purpose aligns the EMS with organizational strategy and gives direction and relevance. Scope clarifies boundaries, that is, geographical, organizational, and activity-related within which the EMS operates. Procedures establish processes for operational control, emergency preparedness, and monitoring. Responsibilities define what different actors do. Documentation provides evidence and traceability.

CONTENTS	DESCRIPTION
Environmental and social policies	Reflects commitments to protection of the environment, compliance, and continual improvement.
Risk and impact identification.	Systematically identifying the environmental aspects and social impacts of NARO's operations, products, or services.
Competence and Trainings.	Ensures that personnel at all levels have the knowledge, skills, and awareness to implement EMS requirements, including environmental and social safeguards
Document control and records	Provides evidence of compliance and accountability.
Operational control	Systematic management of activities, processes, and procedures to ensure that environmental and social impacts are prevented, minimized, or mitigated.
Emergency preparedness and response	Involves anticipating potential environmental, health, and social incidents and putting in place systems to respond effectively so that when unexpected events occur, they are managed quickly, safely, and efficiently to minimize harm.
Monitoring and audits	Track, evaluate, and verify the effectiveness of NARO's EMS to ensure that environmental and social objectives are being met, procedures are followed, and risks are adequately managed.
Corrective action	Identify, address, and eliminate the root causes of non-conformities or failures within the EMS to ensure that identified issues do not recur, maintaining the integrity and effectiveness of environmental and social safeguards.
Communication and recording	Systematic collection, documentation, and dissemination of information related to environmental and social management within NARO to ensure that stakeholders are informed about environmental and social risks, impacts, mitigation measures, and performance.

CONTENTS	DESCRIPTION
Management review	Formal evaluation by top management of the performance and effectiveness of the EMS and ensures that environmental and social policies, objectives, and processes remain relevant, adequate, and effective in achieving the organization's goals.

Appendix 12: Checklist for Occupational Health and Safety (OHS) for research activities applicable to NARO

1. Work organization, psychosocial risks		
Is there health and safety procedures on display and are they up-to-date?	yes	no
Is information on agricultural research activities, the energy and water systems, building and land areas, noise limits, ventilation systems, etc. which is required to perform work safely available to workers?	yes	no
Are procedures in place to assess the risks of activities and to develop safe working procedures?	yes	no
Is training provided to workers on the safe working procedures for undertaking each activity they perform?	yes	no
Is there sufficient cooperation, communication and exchange of information among the different actors involved in an activity in order to allow the safe performance of the work?	yes	no
Are medical examinations conducted before and during work, to determine whether the worker is "fit for work", to recognize counter-indications; to identify specific symptoms and to adapt or change the workplace?	yes	no
Are workers involved in undertaking workplace risk assessment?	yes	no
Is there an emergency response plan and is the plan available to workers? Is a first aid kit maintained and available at known disclosed work locations?	yes	no
2. Hazardous substances including chemical exposure		
Is appropriate PPE supplied according to the OHS risks identified, the Material Safety Data Sheet requirements for the chemicals? Are staffs trained in its use and maintenance?	yes	no
Are protocols in place for handling pesticides and fertilizer and/or other hazardous chemicals?	yes	no

Are chemicals stored and/or disposed in properly labeled containers in suitable areas (well-ventilated, secured areas, well signaled, etc)?	yes	no
3. Slips and trips, falls		
Are there measures in place to deal with slips, trips and falls?	yes	no
When roof work is necessary, has the condition of the roof been assessed to ensure that the roof is dry and free from slipping and tripping hazards?	yes	no
In the case of skylights or holes/cavities, are there safeguards?	yes	no
4. Electricity-related risks, burns/scalds		
Are only qualified persons allowed to work on electrical equipment?	yes	no
Are workers aware that low voltages can cause surprise shocks and thereby falls?	yes	no
Are workers provided with suitable PPE when risk reduction measures at source are not sufficient?	yes	no
Are workers accompanied always by at least one colleague when working on electrical systems, thereby eliminating lone working?	yes	no
5. Respiratory and skin allergies		
Are good working practices shared and made available via training to workers? Are PPEs provided and properly used?	yes	no
NB: Answering 'NO' to one of the questions indicates a need for improvements to be made in the workplace.		

Appendix 13: ESS Risk Categorization

RISK CATEGORIZATION	DESCRIPTION/CRITERIA FOR ESS RISKS AND IMPACTS	ACTIONS
Low	• Minimal or negligible risks to and impacts on human populations and/or the environment. • Few or no adverse risks and impacts and issues. • No further assessment after screening.	
Moderate	• Risks and impacts not likely to be significant • Not complex and/or large. • Predictable and expected to be temporary and/or reversible; • Low in magnitude; • Site-specific, without likelihood of impacts beyond the project footprint; • Low probability of serious adverse effects to human health and/or the environment • Routine safety precautions are expected to be sufficient to prevent accidents	
High	• Significant impacts, severe, sensitive, and high magnitude. • Further assessment required.	

Appendix 14: Environmental and Social Risk Monitoring Form

ENVIRONMENTAL AND SOCIAL RISK MONITORING FORM FOR PARIs

Please provide responses to the questions below. Please include additional sheets or attachments as required to provide details on questions that have been answered “Yes”.

Name of PARI:		
Completed by (name):	<i>(To be filled by the ESS Focal Person)</i>	
Position in the PARI:		Date:
Reporting period	From:	To:

Environmental & Social Management System (ESMS)

General	Yes/No	
Has the PARI developed and implemented an ESMP, PMP and any other environmental and social instruments?		<i>If yes, please attach a copy of the environmental and social documents to this report.</i>
Name and contact information of the main responsible staff who has the overall responsibility for the implementation of the PARI's ESMS.		
Please provide current staffing of other core ESMS persons in the PARI involved with ESMS implementation.		
Environmental and Social Procedures	Yes/No	
Has the PARI recently updated its: • Environmental and Social procedures, • OHS procedures. • Stakeholder Engagement Plan. • Grievance Mechanism.		

Has PARI management signed off on the required policies/procedures (environmental and social procedures, OHS procedures)?		<i>If yes, please provide the date and internal communication indicating the same.</i>
If there is an ESMS already in place, have there been any updates to the ESMS or policy and procedures adopted by the PARI during the reporting period?		<i>If yes, please provide a copy of the updates including dates and reasons for the same.</i>
State any difficulties and/or constraints related to the implementation of the Environmental and Social procedures.		
Capacity	Yes/No	
Are the roles and responsibilities of the staff well defined and understood as per the implementation of the ESMP, PMP and other environmental and social instruments?		<i>Please provide details about the definition of the roles and responsibilities.</i>
Please describe the training (if any) provided to the ESMS persons and other team members during year.		
Monitoring	Yes/No	
Is there an internal monitoring and review plan?		<i>If yes, please describe the plan and its processes, also considering it against the performance and processes indicators</i>
Has the PARI implemented an external communication and grievance mechanism?		<i>If yes, please summarize the operations of the grievance mechanisms for both project issues and labor issues</i>

Reporting	Yes/No	
Is there an internal process to report internally on Environmental and Social issues?		<i>If yes, please explain the process, reporting format and frequency and actions taken if any.</i>

Appendix 15: Environmental and Social Audit Tool

i) Environmental and Social Audit Checklist	Compliance with ESMPs or ESIA recommendations Waste management practices Soil, water, and air protection measures Community engagement and grievance mechanisms Health and safety standards Labor and working conditions Biodiversity and ecosystem protection Legal and permit compliance
ii) Compliance Scoring Matrix	Fully Compliant = 3, Partially Compliant = 2, Non-Compliant = 1, Not Applicable = 0. A visual dashboard or heat map
iii) Non-Compliance Log (NCL)	Description of the issue Classification (minor, major, critical) Legal or policy reference Date observed Photo evidence (if available)
iv) Corrective Action Template	The specific action required Responsible person/unit Timeline/deadline for resolution Status tracker (Open, in progress, Closed) Follow-up notes
v) Audit Report Template	Executive summary Background and objectives Methodology Key findings (organized by theme) Non-compliance summary table Recommendations and CAP Photos and annexes
vi) Grievance Redress Monitoring Sheet	All grievances received from communities or workers Date received, nature of grievance Responsible person for resolution Action taken Resolution status (Resolved/Unresolved/Pending)

vii) ESMP Compliance Tracker	A monitoring tool tied directly to project-specific ESMPs. List each mitigation measure, with status updates, observations, and frequency of review.
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Appendix 16: Social Risks Indicators Checklist

CONTENTS	DESCRIPTION
Community Displacement and Involuntary Resettlement	Number of individuals or households displaced due to research activities or infrastructure projects. Tracks social disruption and potential harm caused by expansion or land acquisition.
Land Access and Tenure Security	Proportion of affected persons with secure land tenure or legal access to land used for research projects. Monitors risks related to land disputes, conflicts, or unfair land use practices.
Impact on Vulnerable and Marginalized Groups	Number of women, youth, persons with disabilities, indigenous people, or marginalized groups adversely affected by research projects. Assesses disproportionate impacts and ensures equity in access and benefits.
Labor and Working Conditions	Incidences of unsafe or unfair labor practices in research programs (including child labor, forced labor, gender-based discrimination). Ensures compliance with labor laws and standards for occupational safety and workers' rights.
Health and Safety Risks	Number of people exposed to chemical, biological, or physical hazards arising from research activities. Monitors social risk related to public health, accidents, and exposure to agrochemicals or other hazardous materials.
Social Conflicts and Tensions	Number of reported disputes, conflicts, or tensions arising between research teams and local communities. Identifies risks to social cohesion and community relationships.

CONTENTS	DESCRIPTION
Access to Benefits and Participation	Proportion of men, women, youths, vulnerable groups, PwDs, marginalized groups, social minorities, etc actively participating in research programs and receiving benefits from interventions. Measures inclusivity and fairness in sharing benefits of research outputs.
Gender and Social Equity	Representation of women, youth, and marginalized groups in decision-making related to research programs. Assesses gender and social equity risks and ensures fair participation in project governance.
Cultural and Indigenous Rights	Number of incidents where research activities negatively impact indigenous cultural practices, sites, or heritage.
Grievance and Complaints	Number and type of grievances raised by affected persons regarding social impacts. Tracks community concerns, responsiveness of grievance mechanisms, and social risk mitigation.
Education and Knowledge Transfer	Number of training or knowledge-sharing initiatives inclusive of vulnerable populations. Ensures equitable capacity building and social empowerment.

Appendix 17: Gender Disaggregated Data Tool

CONTENTS	DESCRIPTION
Demographic Characteristics	Defines and profiles community members including but not limited to: Sex, Age, Marital Status, Household Head, Disability Status, Marginalized Identity, Employment Status, Location e.g., Residence/Region, Income Status, among others.
Economic Indicators	Provides a background on livelihoods and productivity of community members; e.g., access to assets/ resources, types of land ownership, economic opportunities, control of resources, etc.
Health Indicators	Can include Persons living with HIV/AIDS, Health & Safety, Access to Health Facilities, Nutrition Deficiency, Diet, among others.
Education Indicators	Defines person's Literacy rates, Numeracy rates, or dropout rates. Can include Primary Level, Secondary Level, BTVET, Diploma, Bachelor, Post Graduate, Doctoral, Post-Doctoral, among others.
Leadership and Governance Indicators	Helps to understand representation of persons in political leadership, participation in and/ or membership to groups, and decision-making capacity e.g., holding position at parliament, LG, managerial, among other positions of leadership.
Human Rights	Gender-Based Violence (GBV) and Protection, any form of violence, discrimination, or exploitation
Information and Communication Technology Indicators	Can include access to modern data systems, mobile technologies e.g., TV, radio, telephone, smartphones, etc.

Appendix 18: Grievance Mechanism Checklist

The following checklist describes a Grievance Mechanism (GM) that adheres to national and international practice.

A. System issues	Response	
1. Does the project invite feedback/grievances?	Yes	No
2. Does the organization have a policy on grievance redress?	Yes	No
a. Is the policy available to all staff, beneficiaries, and potential users?	Yes	No
b. Is the policy written in an understandable language(s)?	Yes	No
3. Does the grievance mechanism have the following features?		
a. A clearly understood procedure for people to provide feedback and/or submit grievances.	Yes	No
b. A statement of who is responsible for dealing with feedback/grievances.	Yes	No
c. Procedures for resolving or mediating and investigating grievances depending on their seriousness and complexity.	Yes	No
d. A system for keeping complainants informed of status updates.	Yes	No
e. A system for recording feedback/grievances and outcomes.	Yes	No
f. Procedures for protecting confidentiality of complainants (including SEA/SH complaints).	Yes	No
B. Staff management		
1. Is there a grievance manual for staff?	Yes	No
Do the grievance policy and/or procedures provide guidance on:		
a. What grievance/feedback is?	Yes	No
b. What information to collect from complainants?	Yes	No
c. What remedies can or should be used to resolve grievances?	Yes	No
2. Are the grievance policy and procedures communicated to all staff?	Yes	No

3. Are adequate resources allocated for the grievance mechanism to function effectively?	Yes	No
4. Does the organization provide training on grievance management to staff?	Yes	No
C. Communication to grievance mechanism users		
1. Are users told how to submit grievances/feedback?	Yes	No
a. Is an information brochure on the grievance mechanism available to users?	Yes	No
b. Are feedback/grievance forms available to users?	Yes	No
c. Are grievance forms or signs displayed prominently and readily accessible?	Yes	No
d. Are contact details of staff receiving feedback/grievance published and displayed in public areas?	Yes	No
e. Is information on grievance management available in an understandable language(s)?	Yes	No
2. Are users able to submit grievances/feedback:	Yes	No
a. In writing	Yes	No
b. By email	Yes	No
c. By fax	Yes	No
d. By telephone	Yes	No
e. In person	Yes	No
3. Are users provided with assistance to submit feedback/grievances where needed?	Yes	No
4. Can the grievance mechanism be accessed free of charge?	Yes	No
5. Are users promised confidentiality?	Yes	No
6. Are users informed about the appeals process?	Yes	No
D. Feedback/grievance recording		
1. Are all feedback/grievances recorded?	Yes	No
a. Are grievances/feedback logged and documented?	Yes	No
b. Are inquiries/suggestions and recommendations recorded?	Yes	No

c. Are the outcomes and responses to all grievances/feedback recorded?	Yes	No
E. Business standards		
1. Are there standards in place for the process and timing with which grievances/feedback are dealt with?	Yes	No
a. Is receipt acknowledged within a stipulated time frame?	Yes	No
b. Are the grievances supposed to be resolved within a stipulated time frame?	Yes	No
2. Is there a quality control system in place to:		
a. Check if all grievances have been dealt with or acted upon.	Yes	No
b. Check if all aspects of a grievance have been addressed.	Yes	No
c. Check if all necessary follow-up action has been taken.	Yes	No
F. Analysis and feedback		
1. Are regular internal reports on grievances/feedback produced for senior management?	Yes	No
2. Grievances/feedback reports include data on:	Yes	No
a. Numbers of grievances/feedback received	Yes	No
b. Compliance with business standards.	Yes	No
c. Issues raised in grievances/feedback.	Yes	No
d. Trends in grievances/feedback over time.	Yes	No
e. The causes of grievances/feedback.	Yes	No
f. Whether remedial action was warranted.	Yes	No
g. What redress was actually provided?	Yes	No
h. Recommendations/strategies to prevent or limit future recurrences.	Yes	No
3. Are reports about grievances/feedback made public, periodically?	Yes	No

Appendix 19: ESS Social Screening Checklist

ISSUES	ANSWER		REMARKS	IF YES, ESS POLICY STANDARD (PS) TRIGGERED.	IF YES, RELEVANT DOCUMENT(S) TO BE PROVIDED
	YES	NO			
1. Immigration and Land Acquisition					
Does the research project or subproject require loss of land for development (public or private, temporary or permanent)?				PS 11	Mitigation action plan (MAP), Resettlement Action Plan (RAP)
Does the research project or subproject cause house demolition due to the research project/ activities?				PS 11	ESMP; RAP
Are people prohibited from using their daily economic resources (such as fishing sites, economic forests, planting land) due to the research project/ activities?				PS 4	ESMP; Livelihood Restoration Plan.
Does the research project or subproject result in involuntary resettlement of individuals or families?				PS 11: Involuntary Resettlement	SIA, Livelihood Restoration Plan
Does the research project or subproject result in the resettlement of indigenous people?				PS 10: Protection of Indigenous Peoples	SIA, RAP; SEMP

Does the research project or subproject result in temporary or permanent loss of crops, fruit trees and facilities?					PS 11: Involuntary Resettlement;	Compensation and Livelihood Restoration Plan
2. Minorities						
Does the research project or subproject affect ethnic minorities, communities and population?					PS 5: Consideration of Marginalized and Vulnerable Groups,	Inclusivity Action plans
3. Employees						
Does the research project or subproject cause unemployment?					PS 7: Labor laws and working conditions	Livelihood Restoration actions
Does the research project or subproject result in employee transfer?					PS 7: Labor laws and working conditions	Resettlement Plan
Does the research project or subproject cause the decrease of employee's income					PS 7: Labor laws and working conditions	Alternative Livelihood
Will the research project or subproject have serious negative social impact? Are these impacts sensitive, diverse or unprecedented? (Provide a brief description)					ESS Principle 3: Social Inclusivity.	SIA, SMP

Will the project endanger material and cultural resources (cultural relics protection units above the county level)? Please provide a brief description:				PS 17: Physical cultural resources	SIA, RAP, ESMP
Will the project endanger cultural resources that are meaningful to the local community or town (such as the temple of the god of earth in the village)? Please provide a brief description				PS 17: Physical cultural resources	SIA, RAP, ESMP

Conclusions and Safeguard Measures Required:

Based on the above, the following social safeguard actions and documents shall be prepared for the project/subproject:

1.
2.
3.

Appendix 20: An Inventory or Register of ESS Guideline Applicable Laws and policies

REGULATORY FRAMEWORK	APPLICABLE SECTIONS
The Constitution of the Republic of Uganda	Article 17; 17 and 39 and State policy XXVII (27)
The National Environment Act (2019)	Section 2, 4(3), 5, 21, 61 and Section 115
The NAR Act (2005) CAP 197 of Laws of Uganda	Section 3(a) and (b), and 4(b)
The Land Act (1998)	Section 27
The Occupational Safety & Health Act (2006)	Section 14, 19, and 21
OHS ACT 2006	Section 14, 19, and 21
Equal Opportunities Commission Act (2007)	Section 14(1);
Prevention of Human Trafficking Act (2019)	Section 6
Children's Act (1997)	Amended 2016 Section 8
The National Environment (Waste Management) Regulations (2020)	Section 96
Climate Change Act (2021)	Chapter 1 &2
Gender Policy (2007)	Section 5.1
National Agricultural Research Policy (2003)	Section 1-3
National Child Labour Policy (2006)	Section 1-8
NARO Grants Policy (2025)	Section 4
Agriculture Policy (2013)	Section 4.12 and 4.13
NARO Strategic Management Plan (2018/19/2027-28)	Situation Analysis
NARO Guidelines for access and benefit sharing of Genetic Resources	General
NARO Human Resource Manual (2009)	General
NDP VI National Development Plan IV for Uganda	Chapter 12

The Green Growth Development Strategy for Uganda 2017/2028-2030/2031.	Section 2.3
The Uganda National Council for Science and Technology Act (2000)	Section 4
Vision 2040 for Uganda	Section 5.7 and 5.8.
The East African Community Environmental Policy (EACEP)	Section 12
African Union Agenda 2063	Goal 7
EAC Protocol on Environment and Natural Resources Management	General
African Convention on the Conservation of Nature and Natural Resources	General
UN-SDGs Goals	1, 2, 5, 10, 13 ,14 and 15
The Convention on Biological Diversity (CBD (2011)	Article 6, 8, 9, 10 and 12
the Nagoya Protocol (2011)	Article 1,6,8,9 and 22
ISO 14001 (2015)	General
SBSTTA	Article 25
World Bank ESS (2016).	Standard 1-10
IFC	Standard 1-10
Whistle Blower Act 2010	Section 9 (1-6)

Appendix 21: Roles and Responsibilities of in the ESS structure

OFFICE	RESPONSIBILITIES
NARO Governing Council	i) Approve ESS policies, revisions and other strategic documents and ensure its alignment with ESS requirements and NARO's research goals ii) Provide high level strategic direction for integrating ESS principles into NAROs research agenda iii) Ensure adequate prioritisation of ESS issues within NAROs governance and performance frameworks. iv) Hold NAROs management accountable for compliance with ESS requirements, standards and procedures.
Director General	i) Provide high-level support and endorsement for the ESS Policy. ii) Ensure the integration of environmental and social safeguards into NARO's institutional priorities. iii) Approve ESS reports and requisitions submitted through the Directorate of Research Coordination. iv) Mobilize institutional and external support for ESS implementation.
Deputy Director General (DDG) - Research	i) Supervise the Principal ESS Officer and overall, ESS implementation. ii) Ensure research programs integrate environmental and social safeguards at all stages. iii) Facilitate inter-departmental coordination for ESS mainstreaming. iv) Review annual ESS plans, performance reports, and compliance audits. v) Liaise with national and international regulatory bodies and donors on ESS matters.

OFFICE	RESPONSIBILITIES
Principal ESS Officer	i) Lead the implementation and operationalization of the ESS Policy across NARO. ii) Coordinate risk screening, ESMP/ESIA development, and audit activities. iii) Supervise the Senior Environment Officer and Senior Gender Officer. iv) Provide technical backstopping to ESS focal persons in the PARIs. v) Maintain a central ESS database and submit periodic performance reports to the DDG-RC. vi) Represent NARO in external safeguard-related meetings and partnerships. vii) Consolidate workplans and budgets for ESS Unit and integrate them into NARO's workplans and budgets.
Senior Environment Officer	i) Environmental risk screening and support ESMP/ESIA preparation for NARO activities. ii) Monitoring environmental safeguard compliance during project implementation. iii) Guiding field teams on pollution prevention, climate-smart practices, and resource conservation. iv) Conducting or supporting environmental compliance audits and prepare findings reports. v) Training and mentoring ESS Focal Persons in environmental safeguards. vi) Developing workplans and budgets for ESS activities.

OFFICE	RESPONSIBILITIES
Senior Gender Officer	i) Ensure gender, youth, disability, and social equity issues are aligned to research and development agenda. ii) Develop procedures for gender and equity mainstreaming in research processes. iii) Develop workplans and budgets for gender, equity and diversity. iv) Support focal point persons to establish grievance redress mechanisms at PARI level. v) Document social risks and impacts of research and field programs while working with focal point persons, vi) Train and provide guidance to ESS Focal Persons on gender-responsive and socially inclusive safeguards.
ESS Focal Person (ESS-FP)	i) Coordinating ESS activity implementation at the PARI level. ii) Conducting preliminary project screenings and support development of site-specific ESMPs. iii) Monitoring on-ground ESS compliance and maintain records. iv) Reporting safeguard-related issues, risks, and stakeholder concerns to the Senior Officers. v) Acting as a liaison between the central ESS Unit and the PARI's technical teams and community stakeholders.

Appendix 22: General Environmental and Social Compliance guide

COMPONENT	COMPLIANCE ASPECTS
i) Environmental and Social Audit Checklist	Compliance with ESMPs or ESIA recommendations Waste management practices Soil, water, and air protection measures Community engagement and grievance mechanisms Health and safety standards Labor and working conditions Biodiversity and ecosystem protection Legal and permit compliance
ii) Compliance Scoring Matrix	Fully Compliant = 3, Partially Compliant = 2, Non-Compliant = 1, Not Applicable = 0. A visual dashboard or heat map
iii) Non-Compliance Log (NCL)	Description of the issue Classification (minor, major, critical) Legal or policy reference Date observed Photo evidence (if available)
iv) Corrective Action Template	The specific action required Responsible person/unit Timeline/deadline for resolution Status tracker (Open, in progress, Closed) Follow-up notes
v) Audit Report Template	Executive summary Background and objectives Methodology Key findings (organized by theme) Non-compliance summary table Recommendations and CAP Photos and annexes
vi) Grievance Redress Monitoring Sheet	All grievances received from communities or workers Date received, nature of grievance Responsible person for resolution Action taken Resolution status (Resolved/Unresolved/Pending)

vii) ESMP Compliance Tracker	A monitoring tool tied directly to project-specific ESMPs. List each mitigation measure, with status updates, observations, and frequency of review.
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Appendix 23: Key Stakeholders and their Responsibilities in the NARO ESS Policy guidelines

CATEGORY	SPECIFIC ENTITIES (EXAMPLES)	ROLES AND RESPONSIBILITIES IN ESS STRATEGY IMPLEMENTATION
Farmers and Producers	• Smallholder Farmers • Farmer Cooperatives • Commercial Farmers	• Adopt environmentally sustainable and socially inclusive farming practices. • Provide feedback on ESS impacts at community level. • Participate in ESS awareness, training, and demonstration activities. • Act as champions in showcasing research innovations using socially acceptable practices.
Community Members	• Local households • Vulnerable groups	• Participate in consultations and needs assessments. • Report ESS-related grievances and concerns related agricultural research. • Benefit from safeguards (e.g., inclusion, risk reduction).
Extension and Advisory Services	• NAADS Secretariat • District Production & Marketing Departments • Parish Development Model (PDM) structures	• Integrate ESS awareness into extension packages. • Provide technical guidance on sustainable agricultural research practices. • Monitor compliance with ESS safeguards at community level.

CATEGORY	SPECIFIC ENTITIES (EXAMPLES)	ROLES AND RESPONSIBILITIES IN ESS STRATEGY IMPLEMENTATION
Government Institutions (MDAs)	• MAAIF • NEMA • MGLSD • MWE etc	• Policy support, alignment with national agriculture programs, oversight of ESS in agricultural research. • Ensure environmental compliance and EIA processes. • Ensure gender equality, social inclusion, and labor standards. • Provide technical guidance on water, forestry, and climate change safeguards. • Oversee occupational health and safety in research institutions. • Set standards for safe use of agro-inputs and products. • Provide financial support to ESS activities
Academia	• Universities, Tertiary institutions • Colleges etc • Secondary school • Vocational training centers	• Collaborate on research addressing environmental and social challenges. • Mainstream ESS awareness in curricula. • Provide capacity-building and training on ESS. • Generate evidence to inform ESS policy and practice. • Produce skilled graduates with ESS-oriented knowledge
Policy and Advocacy Actors	• Civil-Society Organizations (CSOs) • NGOs	• Advocate for strong ESS integration in agricultural research. • Monitor compliance and hold institutions accountable. • Mobilize communities and disseminate ESS knowledge.

CATEGORY	SPECIFIC ENTITIES (EXAMPLES)	ROLES AND RESPONSIBILITIES IN ESS STRATEGY IMPLEMENTATION
Scientists and Non-Scientists	- NARO scientists - Independent researchers	- Integrate ESS safeguards into research designs. - Implement ESS plans and mitigation measures - Adhere to ESS standards and principles - Conduct ESS training to stakeholders - Document and share lessons learned on ESS practices.
Partners and Donors		- Provide funding and technical assistance for ESS mainstreaming. - Support capacity development and technology transfer. - Ensure safeguards compliance in funded projects. - Enforce compliance to ESS compliance and standards
Private Sector	- Agro-input companies - Agri-business enterprises - Technology companies	- Promote and supply environmentally safe technologies and products. - Adopt corporate social responsibility aligned with ESS safeguards. - Partner with NARO in piloting innovations that respect to ESS principles.
Local Government	- District Local Governments - Sub-County and Parish Councils	- Mainstream Sustainability LG agricultural initiatives. - Train community on Natural resource use planning and management - Monitor and enforce ESS safeguards at grassroots level. - Mobilize communities for ESS awareness and participation.

CATEGORY	SPECIFIC ENTITIES (EXAMPLES)	ROLES AND RESPONSIBILITIES IN ESS STRATEGY IMPLEMENTATION
Research Institutions	• NARO Institutes • Other national RIs	• Integrate ESS in national and institutional policies and research projects. • Build internal systems for waste management, social inclusivity, and risk mitigation. • Report on ESS performance indicators.

Appendix 24: Operational Procedures for Whistleblower Handling in Research Activities

STEP	PROCESS STAGE	KEY ACTIONS / PROCEDURES
1	Submission of Whistleblower Report	- Any staff, researcher, partner, contractor, or community stakeholder may submit a report in good faith. - Reports may be submitted through: - ESS Unit (written, electronic, or in person) - Designated ESS focal persons at PARIs or project level - Secure electronic reporting platforms or official channels - Anonymous reporting mechanisms - Reports shall describe the alleged misconduct, location, persons involved (if known), and supporting evidence where available.
2	Receipt and Acknowledgement	- Register the report in a confidential whistleblower register. - Assign a unique reference number. - Where identity is known, acknowledge receipt within five (5) working days without disclosing sensitive details.
3	Confidentiality and Protection Measures	- Apply immediate confidentiality safeguards to protect identity and information disclosed. - Assess risk of retaliation and institute protective measures, including: - Restricted access to information - Temporary reassignment of duties - Advisory to management on non-retaliation obligations - Document and treat any retaliation as a serious policy violation.

STEP	PROCESS STAGE	KEY ACTIONS / PROCEDURES
4	Preliminary Assessment and Admissibility Review	• Conduct a preliminary review within ten (10) working days to determine: – Scope under ESS Policy – Credibility and seriousness of allegations – Need for immediate corrective or preventive action • Refer cases outside ESS mandate to appropriate institutional or legal mechanisms while maintaining confidentiality.
5	Investigation and Review	• Conduct an internal investigation or recommend establishment of an independent investigation committee where required. • Ensure investigations are objective, impartial, and time-bound. • Require cooperation from relevant research teams, supervisors, or partners while maintaining confidentiality.
6	Findings, Decision-Making, and Recommendations	• Document investigation findings and conclusions. • Recommend corrective, remedial, or disciplinary actions in accordance with the Human Resource Manual and applicable laws. • Initiate appropriate actions without delay where misconduct is confirmed.
7	Feedback to the Whistleblower	• Where identity is known, provide feedback on outcomes, subject to confidentiality and legal limitations. • Focus feedback on actions taken and safeguards applied rather than personal or disciplinary details.

STEP	PROCESS STAGE	KEY ACTIONS / PROCEDURES
8	Escalation of Unresolved or High-Risk Cases	• Escalate cases involving senior management, systemic risks, or legalimplicationsto: -Director-general -Relevant-oversight-committees - External regulatory or judicial bodies, as appropriate • Follow institutional protocols and applicable national and international laws.
9	Documentation and Secure Record-Keeping	• Document all cases in a secure and confidential system. • Maintain records on: - Nature of allegations - Actions taken - Decisions made - Follow-up measures • Retain records in line with NARO records management and data protection policies.
10	Monitoring, Learning, and Continuous Improvement	• Conduct quarterly analysis of whistleblower cases to identify systemic risks and recurring issues. • Use findings to inform: -ESS policy reviews -Research governance improvements -Capacity building and awareness programs • Include aggregated, non-identifiable summaries in ESS performance reports where appropriate.

FIGURES

Figure 1: Research Project Screening Process for ESIA

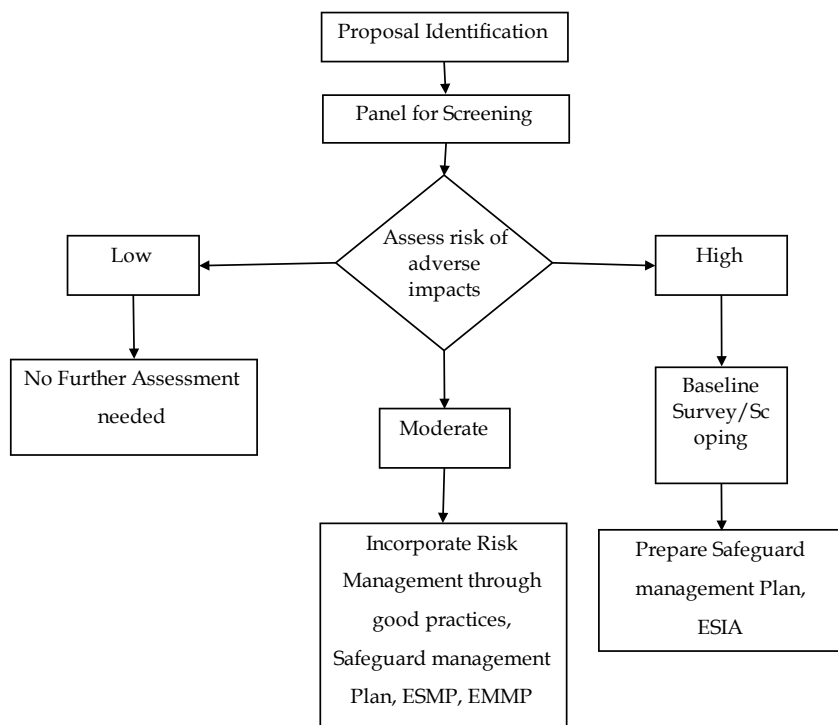


Figure 2: Procedure for ESIA Development

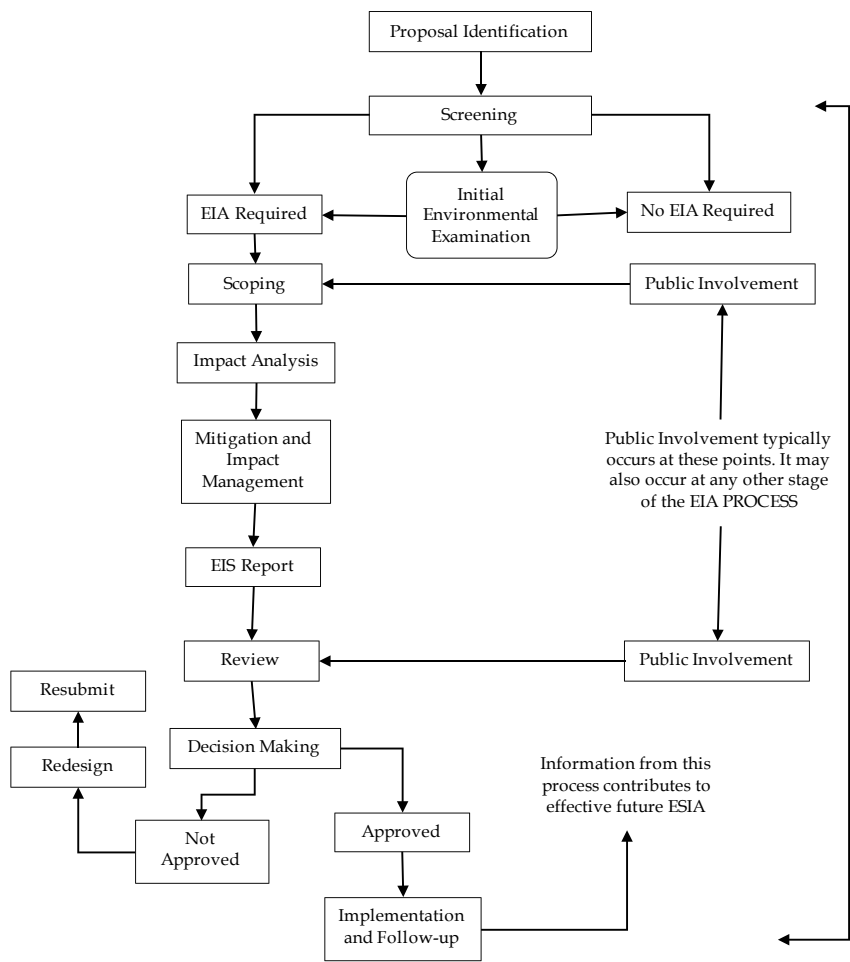


Figure 3: Conceptualization of Research Teams

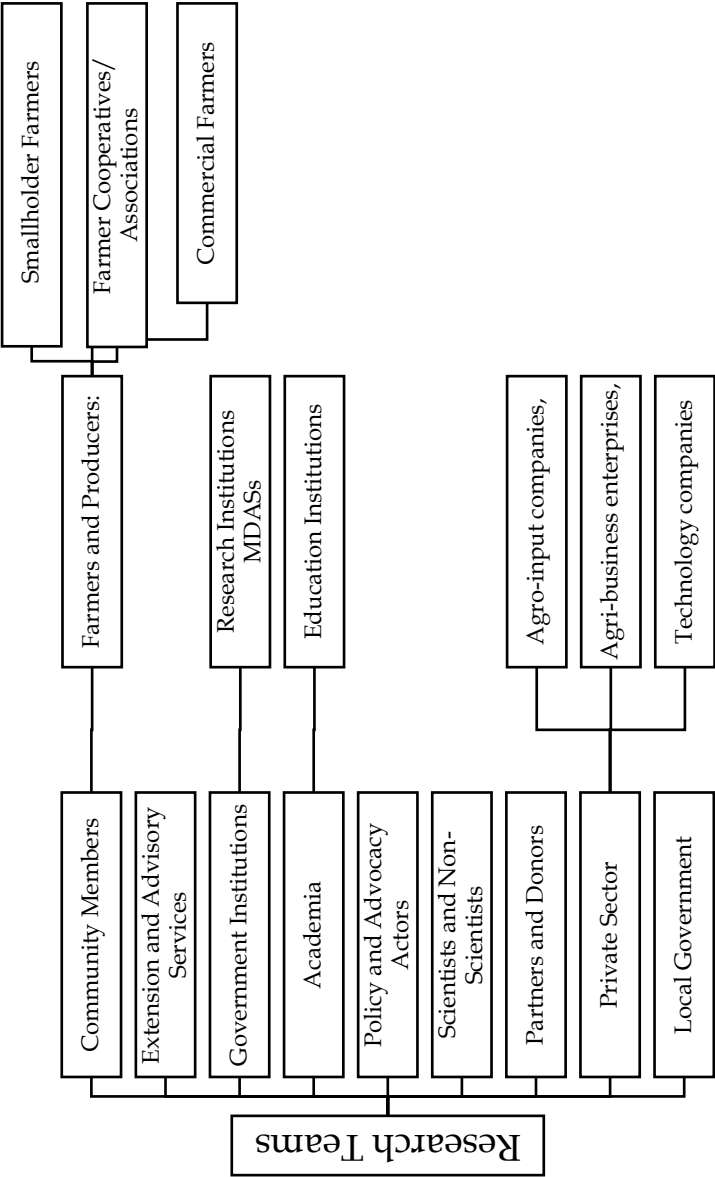


Figure 4: Operational Principles and Standards

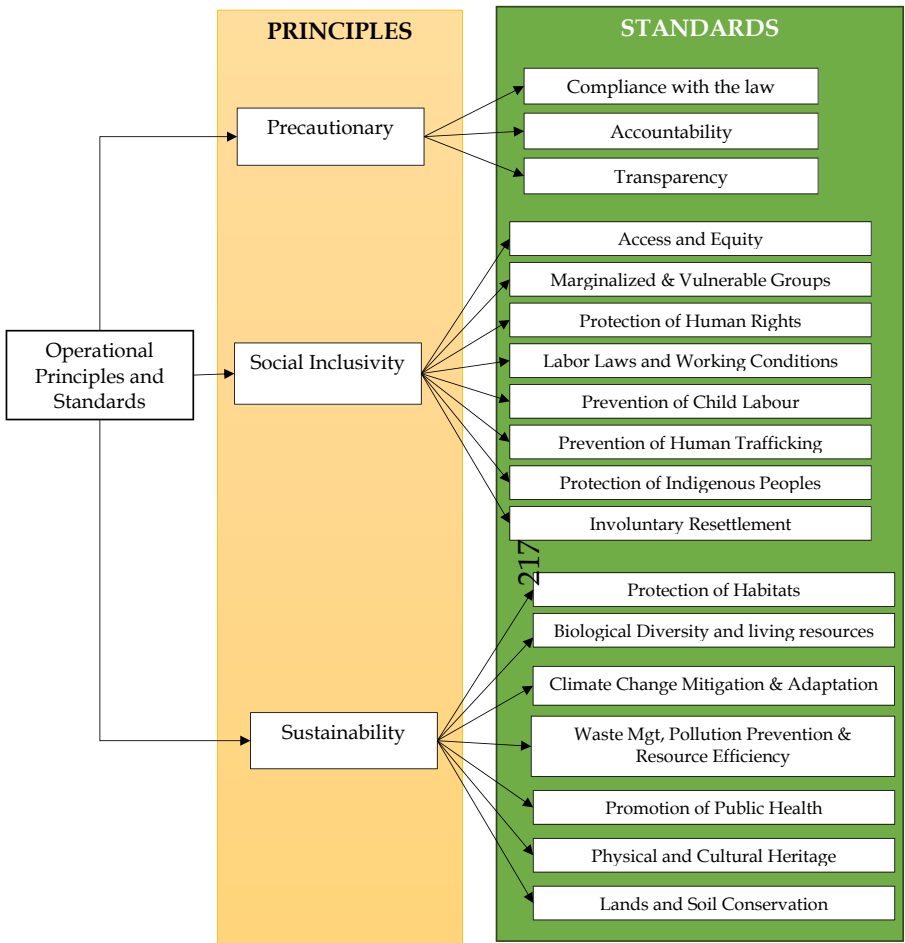
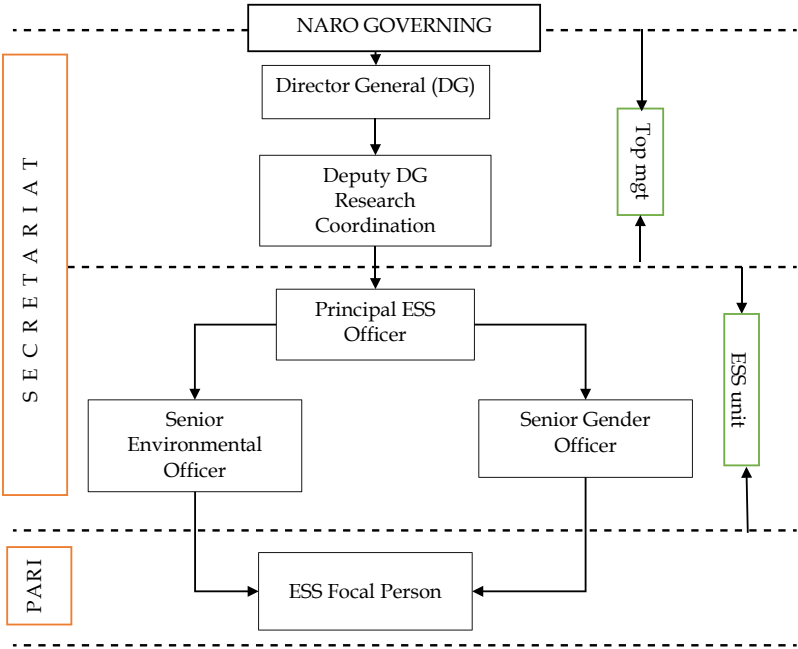


Figure 5: Proposed ESS Structure / Network



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Endnotes



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