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ENVIRONMENTAL IMPACT ASSESSMENT: INTEGRATING AGRICULTURAL BIODIVERSITY

Environmental Impact Assessment (EIA) is a widely used tool to evaluate the potential impact of any given activity on the environment. In particular, this refers to the impact of development projects or programmes, including investment projects. The potential environmental impacts of projects/programmes can be numerous and affect different aspects of the environment, such as soil erosion or water quality – but also biodiversity that is important for food and agriculture.

In Lao PDR, the conservation and sustainable use of agricultural biodiversity in the short and long term, for national socio-economic development as well as for food security, nutrition and livelihoods, is important - hence, protecting agricultural biodiversity from the potential impact of development projects/programmes is a priority for Lao PDR. Integrating agricultural biodiversity considerations into EIA is a specific activity in the Lao PDR National Agricultural Biodiversity Programme.

The Ministry of Agriculture and Forestry (MAF) identified the need to develop technical guidelines which specifically address agricultural biodiversity – a process which fits with a request from the Science, Technology and Environment Agency to line ministries to develop technical guidelines, as part of the national process to develop a Decree on Environmental Impact Assessment for Lao PDR.

Agriculture, fishery, forestry, irrigation and livestock are the most relevant project types of MAF that address components of biological diversity of relevance to food and agriculture. These components are sources of basic needs, food and income for the Lao rural poor, and therefore, their conservation and sustainable use (including for improvement), are very important. When considering the potential impacts of development projects/programmes on the environment, agricultural biodiversity considerations are crucial as they represent not only biodiversity that provide food security to populations, but also provide essential ecosystem services that contribute to regulating ecosystem functions as well as providing ecosystem resilience. Sector-specific and step-by-step technical guidelines were developed to allow project proponents to include, in their targeted environmental assessments, the agricultural biodiversity aspect of the entire environment.

To further assist the development of projects in Lao PDR while ensuring that environmental requirements are incorporated into development projects, it is necessary to conduct an Initial Environmental Examination (IEE) or Environmental Impact Assessment (EIA) with its Environmental Management Plan (EMP), which will take into account the impacts of development projects on the environment as well as mitigation measures to contrast potential negative effects on the environment. Other tools are Technical Guidelines, which serve to advise project owners on reporting on the status of their projects, as well as to lead project owners to conduct additional studies, if there is such a requirement from the approving agency prior to certifying the projects. These technical guidelines also assist in monitoring and evaluating projects.

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The technical guidelines prepared by NAFRI serve the Ministry of Agriculture and Forestry two purposes:

1. To undertake EIA for projects of MAF sectors of competence
2. To provide technical advice to all other sectors/proponents on how to integrate agricultural biodiversity considerations into their EIA

When undertaking any environmental assessment, some basic questions need to be asked first, to ensure that agricultural biodiversity considerations are addressed at the genetic, species and ecosystem levels. These questions address the level of diversity, and the questions of both the conservation and the sustainable use of agricultural biodiversity. Indicative sector-specific questions were developed for: crop and crop-associated biodiversity, livestock development and management, sustainable use and conservation of aquatic biodiversity, and non-timber forest products and other terrestrial biodiversity.

With regards to Environmental Management Plans, although specific mitigation measures would need to be developed for each project, based on the project specificities, some "general" mitigation measures which apply to all components of agricultural biodiversity (crops, crop wild relatives, crop-associated biodiversity, livestock, aquatic biodiversity and NWFP and other terrestrial biodiversity) could include:

- Use, to the best extent possible, indigenous species
- Conserve genetic resources ex-situ
- Avoid deforestation in slope landscapes
- Consider issues related to downstream impact (such as pollution, siltation, erosion, lowered water tables, and so forth)
- Use sustainable agricultural practices
- Use integrated pest management (IPM) to deal with pest problems (this is especially relevant for crop production and fish-rice based farming systems)

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Ministry of Agriculture and Forestry

P.O. Box 811
Patouxay Roundabout
Lanexang Avenue
Vientiane 0100

www.maf.gov.la

Food and Agriculture Organization of the United Nations

Vialle delle Terme di Caracalla
00153 Rome - Italy

www.fao.org/biodiversity
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