



## CAMEROON BIOSECURITY PROJECT

*Development and Institution of a National Monitoring and Control System (Framework) for Living Modified Organisms (LMOs) and Invasive Alien Species (IAS)*

# TRAINING MANUAL ON CONTINGENCY PLANNING PROCESS AND EMERGENCY RESPONSE FOR BIOLOGICAL INVASIONS IN CAMEROON.

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**Under the Supervision of:**

Project Component Three Taskforce (MINESUP)

&

The Biosecurity Project Coordination Unit (MINEPDED)



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## ACRONYMS AND ABBREVIATIONS

Abbreviation	Full Name
ACEO	Assistant Chief Executive Officer
APHIS	Animal and Plant Health Inspection Service
APPPC	Asia and Pacific Plant Protection Commission
ASF	African Swine Fever
CABI	Centre for Agriculture and Biosciences International
<i>CARBAP</i>	African Research Centre on Bananas and Plantains
<i>CBD</i>	Convention on Biological Diversity
CEO	Chief Executive Officer
CII	Cooperative Initiative on Invasive Species on Island
CITES	Convention on International Trade in Endangered Species
CBPP	Contagious Bovine Pleuropneumonia
CP	Contingency Plan
CPB	Cartagena Protocol on Biosafety
DRCQ	Department of Regulation and Quality Control of Inputs and Agricultural products
DVS	Director of Veterinary Services
EMPRES	Global Animal Disease Information System
EPPO	European and Mediterranean Plant Protection Organization
ER	Emergency Response
ERMC	Emergency Response Management Committee
FAO	Food and Agriculture Organization
FMD	Foot and Mouth Disease
FMDV	Foot and Mouth Disease Virus
GEF	Global Environment Facility
GISD	Global Invasive Species Database
GMO	Genetically Modified Organism
GREP	Global Rinderpest Eradication Programme
HPI	Heifer Project International
IAS	Invasive Alien Species
IBD	Infectious Bursal Disease
IITA	International Institute of Tropical Agriculture
IMO	International Maritime Organisation
INNS	Invasive Non-Native Species
IPPC	International Plant Protection Convention
ISPM	International Standards for Phytosanitary Measures
ISSG	Invasive Species Specialist Group
IPM	Integrated Pest Management
IRAD	Institute of Agricultural Research for Development
IUCN	International Union for Conservation of Nature
LANAVET	National Veterinary Laboratory
LMO	Living Modified Organism
MINADER	Ministry of Agriculture and Rural Development
MINATD	Ministry of Territorial Administration and Decentralization
MINEPDED (MINEP)	Ministry of Environment, Protection of Nature and Sustainable Development
MINEPIA	Ministry of Livestock, Fisheries and Animal Industries

MINFOF	Ministry of Forestry and Wildlife
MINRESI	Ministry of the Scientific Research and Innovation
MINSANTE	Ministry of Public Health
NAPPO	North American Plant Protection Organization
NCA	National Competent Authority
NDMC	National Disaster Management Committee
NGOs	Non-Governmental Organizations
OCC	Operational Control Centre
OIE	International Office of Epizootics
PARC	Pan-African Rinderpest Campaign
PCP	Progressive Control Pathway
PCU	Project Coordination Unit
PPR	Peste des Petits Ruminants
PRA	Pest Risk Analysis
PTA	Project Technical Adviser
PVM	Post Vaccination Monitoring
PVS	Post-Viral Syndromer
RPPO	Regional Plant Protection Organisations
SARS	Severe Acute Respiratory Syndrome
SODEPA	Société de Développement et d'Exploitation des Productions Animales
SPREP	Secretariat of the Pacific Regional Environment Programme
TCP	Technical Cooperation Programme
UNEP	United Nations Environment Programme
UNVDA	Upper Nun Valley Development Authority
WTO	World Trade Organisation

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# EXECUTIVE SUMMARY

## 0.1 Context and Justification

It was made clear in the Biosecurity Project document that a major weakness in the management of invasive alien species (IAS) and living modified organisms (LMOs) in Cameroon is capacity in all aspects of risk-based management of invasion pathways and invasion species, from prevention to early detection and rapid response, eradication, control and mitigation. The management of biological invasions is underpinned by some fundamental skill sets. First and foremost, you need to be able to detect the target taxon directly or via evidence of its presence such as feeding damage or disease symptoms. This can be relatively straightforward for large and easily recognised entities but in many cases may require specialised diagnostic procedures. The latter is notably the case for LMOs which can almost never be identified authoritatively by visual inspection alone. Identification is necessary but not sufficient for the management of biological invasions which need to be monitored to understand their dynamics over time.

The Project Objective of the UNEP/GEF funded Cameroon Biosecurity Project (*Development and Institution of a National Monitoring and Control System (Framework) for Living Modified Organisms (LMOs) and Invasive Alien Species (IAS)*) being executed by MINEPDED in collaboration with other key institutions is to increase capacity to prevent and control the introduction, establishment and spread of Invasive Alien Species (IAS) and management of LMOs in Cameroon through the implementation of a risk-based decision making process.

This project intends to bridge the gap existing in the area of invasive alien species management (which has been documented as one of the major causes of accelerated biodiversity loss including nefarious impact on human and animal health as well as diminishing returns in ecosystems services provision). Since living modified organisms present several benefits to science, agriculture, health and economic growth but carry along with them a potential to become invasive, the need for detecting, diagnostics and monitoring these novel species has also been underscored in the framework of this Project.

Preventing the introduction of invasive species is the first line of defence as part of a risk-based management system for biological invasions as a whole. However, even the best prevention efforts will not stop all invasive species introductions. Early detection and rapid response (ED&RR) efforts increase the likelihood that invasions will be addressed successfully while populations are still localized and population levels are not beyond those which can be contained and eradicated. Contingency planning is essential to ensure a timely, efficient and effective response to new introduced species incursions and it is essential to formulate emergency response exercises that will help ensure that responsible organisations have the capacity to respond to new introduced species incursions unpredictable in space and time.

Despite general low levels of awareness and capacity in Cameroon, some emergency responses have been formulated in the country. For instance with the cases of African swine fever, bird flu and cholera some strategies have been put in place to curb their effects.

Based on global good practice and existing national initiatives, a technical manual on contingency planning with emergency response exercises for biological invasions in Cameroon (MINEPDED 2015) has been produced under the Cameroon Biosecurity Project (CBP). This manual will be essential input into this training process, which will help build awareness and capacity levels among key agencies in Cameroon.

## **0.2 Objective of the activity**

The objective of activity C12 is to produce and deliver a training course in the contingency planning process and the formulation of emergency response exercises for biological invasions (including potential LMO invasions) in Cameroon. The materials will be based on a training course of 6 modules produced by the trainers and modified to include, where possible, content directly relevant to Cameroon. Furthermore, this activity will produce a course manual on Training of Trainers in contingency planning process and the formulation of emergency response exercises for biological invasions (including potential LMO invasions) in Cameroon.

### **Learning Outcomes**

By the end of the course the trainees (potential national trainers and project personnel) will be expected to:

1. Understand the role of contingency planning and emergency response as part of an integrated, risk-based approach to the management of biological invasions.
2. Know the components of a contingency plan required for the management of an incipient biological invasion.
3. Understand the specificity of different processes as required for different species and taxa (including LMOs).
4. Understand how to formulate generic emergency response exercises for biological invasions.

## **0.3 Methodology**

The Consultants examined multiple sources of information both from within Cameroon notably technical reports produced within the CBP as well as pertinent national legislation, information from concerned international Organizations, Research and Scientific Institutions including other governmental Institutions. The initial step after presenting a work plan which was validated by the Component's Task Team was the gathering of information from previous activities of the Cameroon Biosecurity Project (reports, previous training manuals, interviews with national experts, exploitation of literature from organizations involved in IAS/LMOs related issues, Invasive species list for Cameroon, focusing on biological invasions and taking into account case studies which can be applicable to Cameroonian context which outlined best practice

approaches). Using these information sources and the international literature, the consultants drafted the manual which was used as a basis for the training of Trainers in a National Workshop which brought together over thirty-five experts. The experts whose capacity had to be enhanced during the training course were selected from target biosecurity related institutions and some non-governmental Organisations in Cameroon. They were those in institutions (Customs, Environmental Inspection, Agricultural /Livestock Inspection, Researchers, Curators at the National Herbarium, Lecturers in Universities notable those where biotechnology Centres exist, and representatives of NGO dealing with environmental public awareness) occupying various positions that required them to have a general overview of the importance and understanding of the components of Contingency plan and Emergency Response exercises for biological invasions. The training approach was inter-active, presentations in plenary, sub group discussions on case studies followed by sub-group results presentations, questions and answer sessions.

Valuable input provided by the experts during the two-day Training (10 and 11 of November 2016) enabled the repositioning of views and examples used in the document to be in coherence with the Cameroonian context. Some of the experts also provided further information which was used to redraft the manual.

#### **0.4 Project Deliverables**

The project output is presented in this document, as a Training of Trainers manual organized in 6 sections.

The following outputs are also produced:

1. Delivery of a two-day training course for 30 participants (from key disciplines and sectors) including a course evaluation of relative capacity before and after the course.
2. Accompanying course notes for the PowerPoint modules.
3. Course Word and PowerPoint modules for the training of trainers and project personnel in the formulation of IAS and LMO contingency plans and emergency response exercises.

The following course modules have been produced:

- **MODULE 1:** Introduction and Course evaluation: pre-course knowledge assessment relative to course objectives.
- **MODULE 2:** An overview of biological invasions globally and in Cameroon - root causes, impacts, management responses and the part played by contingency planning and emergency response in an integrated, risk-based approach to the management of biological invasions.
- **MODULE 3:** Components of an IAS/LMO contingency plan: Pre-event: Prevention (e.g. quarantine, monitoring and surveillance, quality management) and preparedness (e.g. incursion planning, determination of responsibilities, funding, compensation and legislation, training and awareness, research and development). Trigger: Preliminary assessment and diagnosis and containment of the problem. Scope of the problem: e.g. Disease characterisation, epidemiological assessment, impact assessment.

- Operational response: Implementation of the predetermined response strategies. Stand down: Continued surveillance to ensure freedom from the pest or disease.
- **MODULE 4:** Formulation of generic emergency response exercises for the initial and emergency response using the contingency plan components as a guide.
- **MODULE 5:** International institutions, organisations and networks that can assist Cameroon in contingency planning and emergency response.
- **MODULE 6:** Course evaluation: post-course knowledge assessment relative to course objectives.

### **Course manual**

This manual has been produced to accompany the course and to serve as a resource for the subsequent national training courses in contingency planning and emergency response. The manual (in modules) comprises PowerPoint presentations used in the course and accompanying course notes.

### **0.5 Next Steps in conformity with the CBP log frame**

Despite the existence of several key actors in the field of LMO/IAS diagnostics, detection and monitoring, biosecurity measures still encounter a set of draw backs – lack of proper coordination in actions and strategies; weak law enforcement; inadequacy of biosecurity legislation; poor infrastructure, insufficient technical capacity building through training of trainers; insufficient public awareness creation and insufficient government funding for functional biosecurity institutions and personnel to carry out biosecurity duties. In the area of cooperation or partnership development, much effort has to be made in order to tap the diverse opportunities offered by bilateral/multilateral cooperation existing in the area of management of LMO/IAS and

LMOs in general and enhancing national capacity for diagnostics, detection and monitoring in particular especially from countries with tremendous experience like Australia and New Zealand that are quite ready to provide needed support to developing countries like Cameroon. Some available expertise is sometimes poorly utilised creating frustrations and consequent brain drain.