GEF

MINEPDED
CAMEROON

UNEP

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.

This training manual has been produced with the support of UNEP/GEF and the Government of Cameroon via the Ministry of Environment, Protection of Nature and Sustainable Development.

Under the Supervision of:

Project Component Three Taskforce (MINESUP)

&

The Biosecurity Project Coordination Unit (MINEPDED)

MINEPDED

Minader
Ministère de l'Agriculture et du Développement Rural

MINESUP

MINRESI

JUNE 2017

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

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
CARBAP	African Research Centre on Bananas and Plantains
CBD	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

PREFERRED WAY TO CITE THIS PUBLICATION

MINEPDED (2016). Training on Contingency Planning process and Emergency Response on Biological Invasions in Cameroon. Training Manual submitted to MINEPDED under the UNEP/GEF Cameroon Biosecurity Project: Development and Institution of a National Monitoring and Control System (Framework) for Living Modified Organisms (LMOs) and Invasive Alien Species (IAS). Yaoundé, Cameroon.

CONTACT DETAILS OF THOSE WHO PARTICIPATED

AUTHORS

Dr. GIORGIO MUSCETTA
International Consultant
Nature Conservation Manager
Invasive Alien Species Expert
Phone/Text: +39 347 6551777
Email: giorgio.muscetta@gmail.com

Ms. PRUDENCE TANGHAM GALEGA
National Consultant
National Focal Point - Convention on Biological Diversity
MINEPDED
Tel.: +237 677976367 (c)
Email: galegapru@yahoo.com

MEMBERS OF THE PROJECT COORDINATION UNIT

Mr. Rigobert Ntep

Cameroon Biosecurity Project Coordinator
Ministry of Environment, Protection of Nature and Sustainable Development
Acropole, Yaoundé, Cameroon
Tel: +237 677 30 39 32
Email: rntep@yahoo.fr

Mr. Declan Chongwa Ambe

Cameroon Biosecurity Project Technical and Administrative Assistant
Ministry of Environment, Protection of Nature and Sustainable Development
Acropole, Yaoundé, Cameroon
Tel: +237 677 02 22 85 / 696 86 66 19
Email: declanambe@yahoo.co.uk

Mr. Clouvis Johnbang

Cameroon Biosecurity Project Financial and Administrative Assistant
Ministry of Environment, Protection of Nature and Sustainable Development
Acropole, Cameroon
Tel: +237 675 95 92 97 / 698 09 94 77
Email: clouvisjohnbang@yahoo.com

PROJECT TECHNICAL ADVISERS

Dr. John Mauremotoo
United Kingdom
Tel: +44(0)7846219689
Email: jmauremootoo@gmail.com

Dr. Mbah David
Cameroon
Tel: 677839141
Email: dambah@yahoo.co.uk

MEMBERS OF THE COMPONENT 3 TASKFORCE

Dr. Annie WAKATA
Head Component 3
MINESUP
Tel: +237 6 74 60 03 31
Email: annie_beya@yahoo.fr

Mr. Valentin Wagnoun
Component 3 Co-Lead
MINEPDED
Tel: +237 677 86 69 58
Email: valiwa1@yahoo.fr

Dr. Vitalis R.M. Chepnda
Component 2 Task Team Member
Permanent Secretary
National Programme for the Prevention and Fight against Zoonoses
MINEPIA
Yaoundé, Cameroon
Tel: +237 699003722/ Cell: +237 679688500
Email: drchepnda@yahoo.co.uk

Dr. Roger Noël Iroume
Component 3 Task Team Member
Inspector General
MINRESI
Yaoundé, Cameroon
Tel: +237 677335433
Email: iroumerog@hotmail.fr

Mr. Alain Hervey Njike Tchoukwam
Component 3 Task Team Member
MINESUP
Tel: 237655258484
Email: ahnjike1@yahoo.fr

ACKNOWLEDGEMENTS

This activity was conducted as part of UNEP/GEF Project number: GFL/3651 titled “Development and Institution of a National Monitoring and Control System (Framework) For Living Modified Organisms (LMOs) and Invasive Alien Species (IAS)”, known as The Cameroon Biosecurity Project. The Ministry of Environment, Protection of Nature and Sustainable Development (MINEPDED) is the Project National Executing Agency. This report has been prepared for MINEPDED. We also acknowledge the funding support of the Global Environment Facility (GEF), the technical and supervisory support of MINEPDED and the United Nations Environment Programme (UNEP).

The authors are grateful for the considerable assistance given in the undertaking of this assignment by the following: Mr. AKWA Patrick KUM BONG (Secretary General - MINEPDED); Mr. Alex OWUSU-BINEY (UNEP); Mr. Declan CHONGWA AMBE.; Mr. ADEGONO Donald; Mr. AOUDOU Joswa; Dr. CASPA Rose; Dr. Annie WAKATA; Dr. BEKA Robert Germain; Dr. David MBAH A.; Dr. FEUMBA Rodrigue Aimé; Dr. MAHOB Raymond; Dr. NGOMBA Armelle; Dr. NJIKI BIKOI Jacky Rep. Kulaban ; Dr. Stephen GHOGOMU; Dr. TOMBI Jeannette Rep. Dr. ACHOUNA; ESSONO Danièle Rep. Mr. LEKEALEM; Ismael SANI Rep. EBAI; KUITEKAM DONGO Patrice Rep. LEKU Francis; MEKANDJE Amedé Rep. MBALLA; MENDOMO Marthe Rep. NDONGO Barthelemy; METENOU Paul; MEY Christian ; Mme WADOU née ZIEKINE Angèle; Mr. KENFACK Jean; Mr. NTEP Rigobert; NATANG Priscillia SONG; NGO NTOGUE Suzanne Rep. Mme TSAMA Valérie; NGONG Clouvis; NGUELO Colince Rep. ATEBA NOA; NJIKE Alain; ONANA Jean Michel; Pr. KENMOGNE Emile; Pr. NWAGA Dieudonné; Pr. TAMOKWE Georges Bertrand; TAMANJONG Yolande; VIBAN Benard YUVEN and YOUMBI Emmanuel.

DISCLAIMER

The information contained in this publication was, to the best of the authors' knowledge, correct at the time of publication. The opinions expressed in this publication do not necessarily reflect those of UNEP, MINEPDED or the organisations represented in the Component Three Task Team. UNEP, MINEPDED or the organisations represented in the Component Three Task Team are not responsible for the information provided in this document. These organisations do not make any warranty of any kind, expressed or implied, including, but not limited to, warranties of accuracy, reliability, completeness, or content of such information in this document.

Under no circumstances shall UNEP, MINEPDED or the organisations represented in the Component Three Task Team be responsible for any loss, damage or liability or expense incurred or suffered which is claimed to have resulted from the use of or reliance upon the information contained in this document, including, but not limited to, any fault error, mistake, omission or defect. Under no circumstances shall these organisations be liable for any direct, indirect, incidental, special, punitive or consequential damages.

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.