

# CLEANED Workbook

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# Preface

This lab workbook contains hands-on material supplementing the CLEANED training taught by Jessica Mukiri, An Notenbaert, Birthe Paul, Emmanuel Mwema and Rein Van der Hoek hosted by the Tropical Forages Program, at the Alliance for Bioversity Inventational and CIAT.

This workbook was written to augment a series of slide deck presentations developed for the training. The slides and workbook, together and along with the virtual presentations, intend to encourage the use of the CLEANED model. Use these resources to guide your learning.

Additionally, how to, videos are integrated into the workbook chapters. The videos also serve to illustrate concepts and techniques not taught in the training.

We hope that you will use and understand the CLEANED model.

## What you will need to get started

You will need Microsoft Excel 2013 or newer.

You will need to download the model: CLEANED & the Manual



# Chapter 1

## CLEANED Training introduction and information

### 1.1 Training Meeting Times

- Mon, Wed and Fri for virtual training sessions (10:00am -12:00pm: GMT+3)
- Tue and Thu to carry out assignments

### 1.2 Prerequisites

There are no prerequisites for this course.

### 1.3 Training Description

Livestock are key to food security, nutrition and livelihoods. The demand for livestock products is expected to double in developing countries. However, the livestock sector is also associated with great environmental costs such as land degradation, high water use, excessive GHG emissions and loss of natural ecosystems and biodiversity.

Designing sustainable livestock enterprises poses a challenge in developing countries due to lack of data and models. The CLEANED minimum data ex-ante environmental impact tool developed by the Alliance can help to fill this gap.

CLEANED is an easy-to-use Excel-based tool that allows users to explore multiple impacts of developing livestock production systems. It models the impacts of changes in different livestock enterprises on productivity, land and water use, greenhouse gas emissions and soil health.

The aim for this training is to strengthen the technical capacity of agriculture stakeholders and for them to be able to use this tool as a means of improved decision making in the agriculture development sector with a focus on livestock systems.

## 1.4 Learning Outcomes

If I've done a good job as the instructor and you've put effort into the training, by the end of the two weeks, you will be able to:

1. **Describe** the importance of carrying out environmental impacts assessments in the livestock sector.
2. **Carry out** assessments using CLEANED and be able to:
  - **Calculate** and gather valid input data needed for the model
  - **Explain** the calculations and parametrize the tool for a specific enterprise in a specific region
  - **Carry out** different intervention scenarios
3. **Summarize, analysis** outputs needed for decision making.

## 1.5 Expectations

- You are willing to share your knowledge, opinions, and ideas in class.
- You are open to the ideas and knowledge of your peers.
- Any concept that is unclear or confusing will be explored and examined.
- You dedicate yourself to the training and are motivated to learn the model.
- You complete assignments in your own time as they are essential part of the learning.

## 1.6 Texts & Materials

1. Virtual slide presentations and discussions
2. Online quizzes
3. Pre-recorded materials
4. Final assignment and presentation.



## 1.7 Assignments / Grading's

There are five post-class assignments. Due dates and descriptions are provided in the agenda. These assignments are essential to strengthen your ability to use the CLEANED model.

In addition, each training session will have at least one small group breakout, active learning assignment and independent quizzes.

The grade for this class is either Pass or No record. In order to pass the training, you must satisfactorily complete all of the post-class assignments, and participate in three or more training discussions and activities.

## 1.8 CLEANED Agenda

10 CHAPTER 1. CLEANED TRAINING INTRODUCTION AND INFORMATION

<b>Day 1: CLEAEND Introduction : 22/06/2020</b>		
10.00am - 10:10am	Introduction + Overall Learning Outcomes	ABC
10.10am - 10:20 am	Opening Remarks	ABC
10.20am - 10:25am	Program + Overview	ABC
10.25am - 11:00 am	Maneuvering the Teams environment + Introduction and expectations	ABC
11:00 am - 11:10 am	Livestock and Environment	ABC
11:10am - 11:15 am	Q&A	Participants
11:15am - 11:20am	Breakout session/ Break	ABC
11:20 am - 11:30 am	Presentations from Country Coordinators	Participants
11:30 am - 11:45am	Understanding CLEANED + questions	Participants
11:45am - 12:00pm	Pending questions not answered; explain where additional background reading can be found; Explain deadlines and submission of Assignments, help	ABC
2:00pm - 5:00pm	Participants can seek help and clarification from facilitators	
Participants Own Time	Understanding systems	ABC
Participants Own Time	Environmental Assessments	Participants
Participants Own Time	Quiz 1	Participants
Participants Own Time	Coordinators + Assignment 1	Participants
<b>Day 2: CLEAEND Introduction assignment submissions: 23/06/2020</b>		
08:00am - 11:00am	Participants can seek help and clarification from facilitators	
01:00pm	Submit assignment 1	
<b>Day 3: Hands on with the tool : 24/06/2020</b>		
10.00am - 10:10am	Welcome back, Learning outcomes of day two any burning questions?	ABC
10:10am -10:30am	Present Assignment 1	Participants
10:30 am - 10:45 am	Introducing a dairy livestock enterprise in the Southern highlands	ABC
10:45am - 10:50am	Q&A	ABC
10:50 am - 11:05 am	Breakout session	ABC
11:05 am- 11:15am	Hands on with the tool: Data Input and Inputs overview	ABC
	Input section one Agro ecology	ABC
	Input section two Livestock	ABC
11:15am - 11:20am	Q&A	ABC
11:20am - 11:30am	Breakout session	ABC
11:30am -11:45am	Input section three Feeding	ABC
	Input section four Production	ABC

Figure 1.1: Agenda

## Chapter 2

# Overview of CLEANED

In this section we shall look at the CLEANED model, what exactly is it?

### 2.1 Slides & Recording

Slides used during day 1

Upload of training video used on day 1

### 2.2 Quiz 1

### 2.3 Assignment 1

### 2.4 Pre - recorded materials

Slides and pre-recorded voice over

*for voice over use this link below*



## Chapter 3

# Hands-on with the INPUT section

In this section we shall look at the INPUT section of the CLEANED model.

### 3.1 Slides & Recording

Slides used during day 2

Upload of training video used on day 2

### 3.2 Quiz 2

### 3.3 Assignment 2

### 3.4 Pre - recorded materials

Slides used for the pre-recorded videos

Upload of pre- recorded video material



## Chapter 4

# Outputs and Results

In this section we shall look at the Results section of the CLEANED model.

### 4.1 Slides & Recording

Slides used during day 3

Upload of training video used on day 3

### 4.2 Quiz 3

### 4.3 Assignment 3

### 4.4 Pre - recorded materials

Slides used for the pre-recorded videos

Upload of pre- recorded video material

### 4.5 Examples of CLEANED Outputs



## Feeding a productive dairy cow in western Kenya: environmental and socio-economic impacts

Figure 4.1: Feeding a productive dairy cow in western Kenya: environmental and socioeconomic impacts



## Chapter 5

# Parameters + Calculations for impacts

In this section we shall look at the several dimensions of the CLEANED model.

### 5.1 Slides & Recording

Slides used during day 4

Upload of training video used on day 4

### 5.2 Quiz 4

### 5.3 Assignment 4

### 5.4 Pre - recorded materials

Upload of pre- recorded video material



## Chapter 6

# Parameters + Calculations for impacts

In this section we shall look at the several dimensions of the CLEANED model.

### 6.1 Slides & Recording

Slides used during day 5

Upload of training video used on day 5

### 6.2 Quiz 5

### 6.3 Final assignment



# CLEANED tutorials

*How to add a feed item*