

# Impact of Sustainable Intensification on Landscapes and Livelihoods (ISILL)

Introductory workshop, Lusaka, Zambia  
May 15, 2014

# Welcome and Introductions

- Dr. Robert Richardson, Michigan State University
- Workshop participants

# Workshop Goals

- Dr. P.V. Sundareshwar, USAID/ Africa Bureau
- Dr. Anna Toness, USAID/ Zambia



# Project Overview

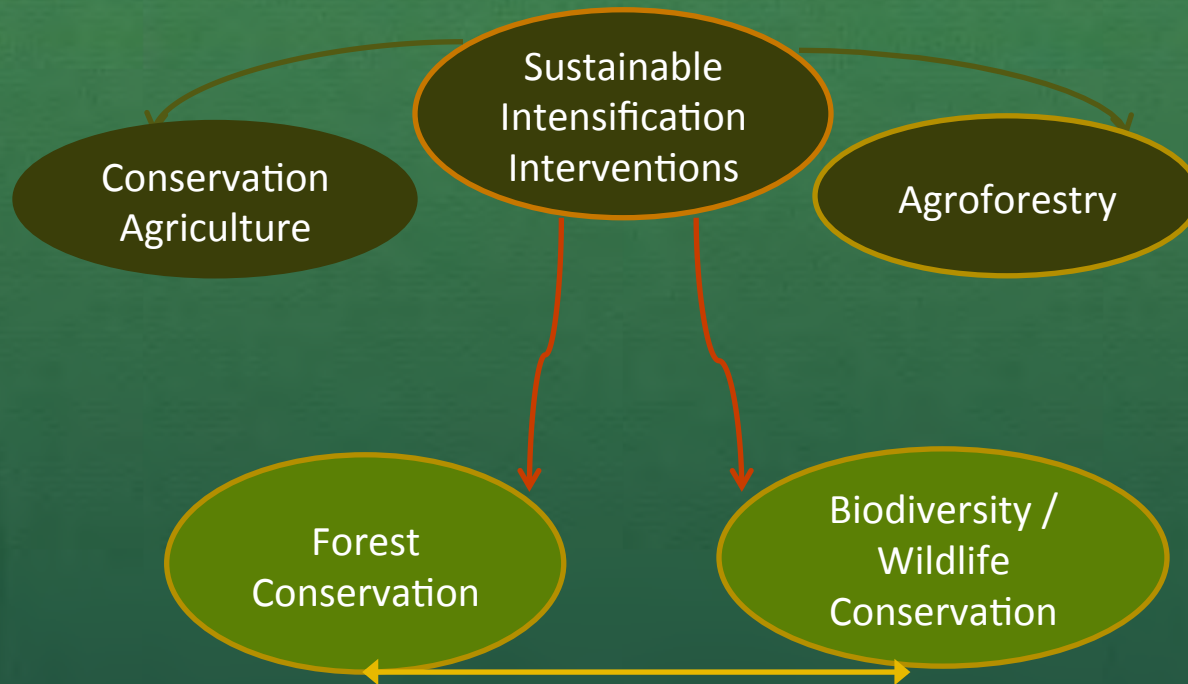
- 12-month study that aims to
  - advance the understanding of the *landscape-level* implications of *farm-level* sustainable intensification activities
  - inform the design of future integrated projects that address food security, climate change and biodiversity issues
- Support from USAID Bureau for Food Security (BFS), Bureau for Economic Growth, Education, and Environment (E3), and Bureau for Africa (AFR), in cooperation with the USAID/Zambia Mission

# Project Objectives

1. Provide an **evidence base for linkages** between field and farm-scale sustainable intensification (SI) interventions and (i) forest conservation and (ii) biodiversity conservation in Zambia
  2. Provide **recommendations** to inform the design of an **integrated framework** for USAID programming in Zambia and other regions
- Pilot sites: Eastern and Lusaka Provinces, Zambia



# Agricultural- Environmental Linkages



# Global Context for Project

- World population to reach 9 billion by 2050
- Global need to increase food production 50-70%
- Yet, agriculture is
  - largest emitter of greenhouse gases (~30-35% of total)
  - largest consumer of freshwater resources
  - largest user of land resources (~38% of total)
  - greatest contributor to biodiversity losses

Foley et al., 2011



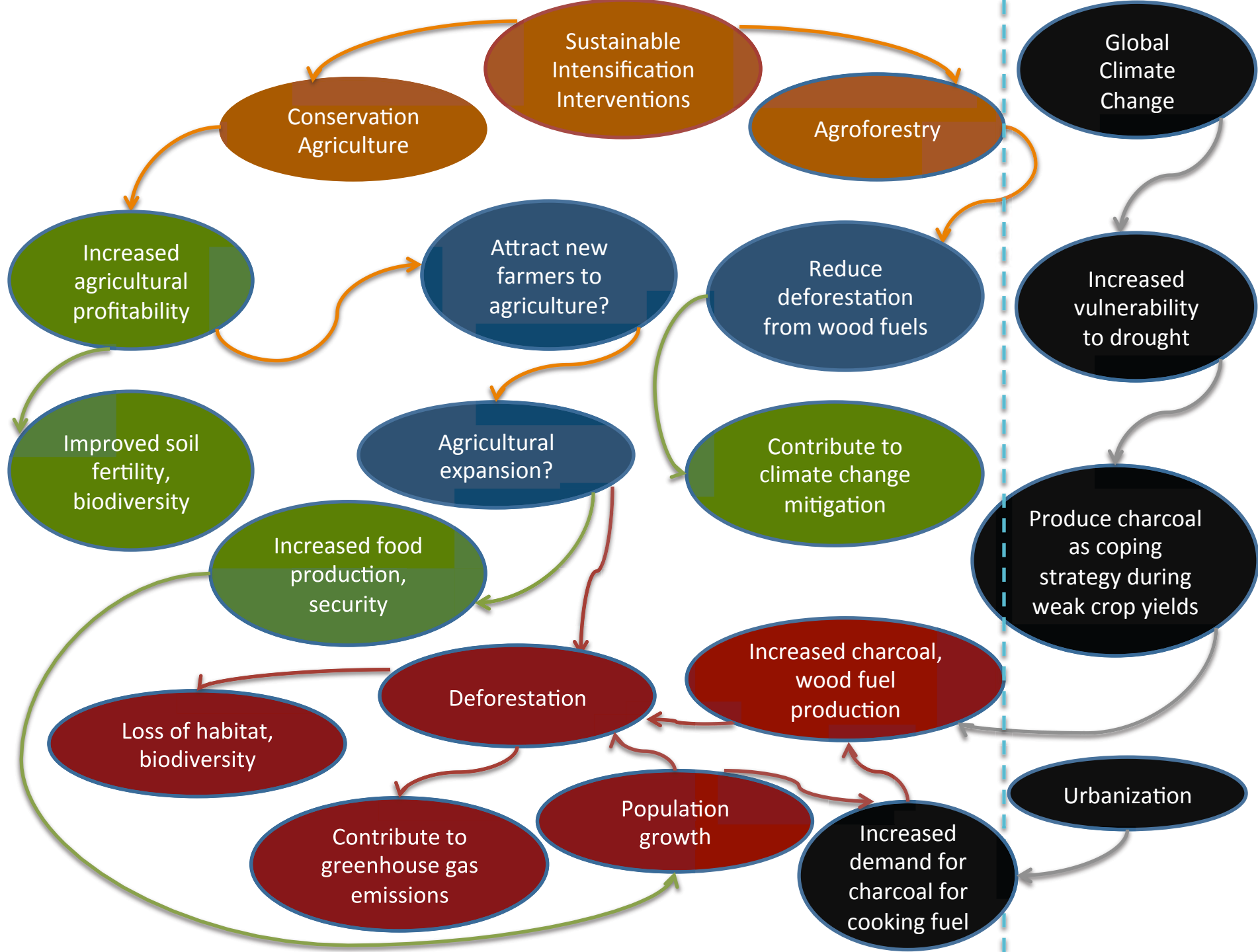
# Project Context (*continued*)

- Agricultural intensification
  - Increase food production
  - Without increasing deforestation
  - Limiting impacts to biodiversity
  - Adapting to climate change
  - Mitigating the impacts of climate change
- Sustainable intensification interventions
  - What are the impacts and linkages?



# Project Activities

1. Review of **literature**
2. Inventory of **data** sets in Zambia (including household survey, spatial, and demographic data)
3. Development of a participatory **systems dynamics model** that will provide the foundation of an integrated framework
4. Analysis of **spatial data** for the development of maps and other images that depict changes in land use over time
5. Explore **policy** implications





# Workshop Objectives

1. Introduce stakeholders to the project
  - Explore questions around linkages between sustainable agricultural intensification, deforestation, and biodiversity conservation
  - Discuss methods used in this project, including system dynamics (SD) and causal loop diagramming (CLD)
2. Discuss **scale of problems** that partner organizations are addressing
3. Identify **proximate and ultimate causes** of problems
4. Develop **causal loop diagrams** for agricultural-environmental linkages that will inform the initial SD model to be presented at a participatory SDM workshop (in August)

# Confidentiality

- Participation is voluntary
- Consent to participate
- Identifying information will not be recorded
- Comments will not be attributed to individuals



# Project Timeline

Activities	Dates
Review of literature	March–April 2014
Introductory workshops	May 2014
Inventory of data	June–July 2014
Participatory system dynamics modeling workshop	August 2014
Spatial data analysis	September–October 2014
Draft report to USAID	December 2014

# Overview of Project Methods

- Dr. Kurt Waldman, Michigan State University