FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Assessing How Agricultural Technologies can Change Gender Dynamics and Food Security Outcomes: Part Three

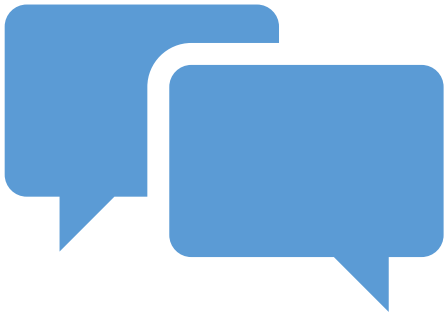
Cristina Manfre, Deborah Rubin, and Caitlin Nordehn

October 2017

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

Part Three: Share



The toolkit, "Assessing how Agricultural Technologies can change Gender Dynamics and Food Security Outcomes," is a three-part document developed under the United States Agency for International Development-funded (USAID) Integrating Gender and Nutrition within Agricultural Extension Services (INGENAES) project led by the University of Illinois-Urbana-Champaign.

Part 1: Learn	**Part 2: Apply**	**Part 3: Share**
This section of the toolkit discusses the relationships between gender, nutrition, and agricultural technologies. It is divided into short thematic chapters that each describe one of three areas of inquiry: • time and labor, • food availability, access, safely, and quality, • and income and assets.	This section of the toolkit introduces a gender analysis framework and a range of tools that can be used to enhance the design and dissemination of agricultural technologies.	This section of the toolkit is a facilitator's guide for designing and conducting a workshop on the methodology. The facilitator's guide is made up of slides and exercises that over the course of the pilot's four (4) workshops we found to be most useful in sharing the methodology.

This document is Part Three of the toolkit.

Table of Contents

This toolkit was produced as part of the United States Agency for International Development (USAID) and US Government Feed the Future project "Integrating Gender and Nutrition within Extension and Advisory Services" (INGENAES) under the Leader with Associates Cooperative Agreement No. AID-OAA-LA-14-00008. The work was made possible by the generous support of the American people through USAID. USAID is the leading American government agency building social and economic prosperity together with governments and people throughout the world. The University of Illinois at Urbana-Champaign is the prime awardee, and partners with the University of California-Davis, the University of Florida, and Cultural Practice, LLC. www.ingenaes.illinois.edu

The toolkit was made possible by the generous support of the American people through USAID. The contents are the responsibility of the authors and do not necessarily reflect the views of USAID or the United States government.

Introduction

Part Three: Share is the third part of "Assessing how Agricultural Technologies can change Gender Dynamics and Food Security Outcomes: A Toolkit." It is a facilitator's guide containing the information necessary for designing and delivering workshops on "Addressing Gender Issues in Agricultural Technology, Design, Use, and Dissemination."

The workshop materials in Part Three: Share were developed and delivered by Cultural Practice, LLC (CP) under the INGENAES project. The content of the workshop draws on the framework and methodology described in **Part One: Learn** and **Part Two: Apply**, respectively. The workshop was piloted in July 2015 in the U.S. It was refined and delivered to practitioners and students in Bangladesh, Nepal, Sierra Leone between 2016 and 2017.

Objectives

Part Three: Share provides the background, guidance, and materials needed to build the capacity of researchers, extension service providers, and development practitioners to understand and apply the technology assessment methodology described in Parts 1 and 2 of the toolkit. The methodology offers a structured process to identify gender-based constraints associated with the design, use, and dissemination of agricultural technologies as well as actions to ensure they respond to men and women farmers' different needs.

As described in Parts 1 and 2, nutritional impacts of agricultural technologies are a secondary focus of the assessment. The nutritional dimensions are highlighted via the analysis of how a technology changes food availability, access, quality, and safety (FAQS).

Structure

In Part Three: Share you will find materials and guidance to design and deliver the workshop "Addressing Gender Issues in Agricultural Technology, Design, Use, and Dissemination." including:

Workshop Overview: In this section, you will find an overview of learning objectives**,** workshop design options, and a monitoring system for capacity development via pre- and post-tests. Sample workshop agendas are provided in Annex A. Sample pre- and post-tests are included in Annex B.

Reflections: In this section, you will find a few tips for facilitation. These are targeted to both new and experienced facilitators. These reflections are based on CP's experience delivering these workshops.

Workshop Materials: The workshop materials include descriptions of the sessions and activities needed to deliver this workshop. In designing your workshop, you may wish to add other sessions or activities to the workshop. You can find the accompanying handouts for specific activities in Annex C. The slides for each session are integrated into this document but also available as Power Point files here.

Workshop Overview

Agricultural technologies[1] increase productivity or add value to products that are sold or consumed in the household. These are designed and disseminated by agricultural actors in the public and private sectors. Technology design tends to focus largely on overcoming productivity or similar constraints and often overlooks the importance of understanding users' needs, preferences, and constraints. Similarly, dissemination efforts may target the farmers most likely to adopt without considering how to reach underserved and hard-to-reach clients.

The workshop is designed to develop participants' ability to use the technology assessment methodology and consider ways to apply the technology assessment in current and future projects or programs. To reach that overall goal, the workshop was designed around three main learning objectives. Pre- and post-tests were developed to examine the acquisition of knowledge and skills associated with the workshops' learning objectives. The three key design components of the workshop presented below include 1. Learning objectives; 2. Workshop design options; and 3. Monitoring System for Capacity Development.

Learning Objectives

The learning objectives for the workshop are:

- Understand key issues related to gender, nutrition, extension and advisory services, and agricultural technologies
- Understand principles of integrating gender analysis into technology design, use, and dissemination
- Be able to conduct a preliminary gender analysis of agricultural technologies.

In addition to these high-level objectives, each session has specific ones that guide the content. These learning objectives can be achieved through in-classroom components or a combination of in-classroom and fieldwork components.

Workshop Design Options

This workshop can be designed to accommodate different audiences' needs, and time and resource constraints. INGENAES tested three variants of the workshop in Bangladesh, Nepal, and Sierra Leone. These varied in length, the ratio of days of learning in-classroom to fieldwork days, resources needed to deliver the workshop, and workshop outputs. These are described below and sample agendas for each workshop can be found in Annex B.

Table 1 Two-Day Workshop

Classroom Days	Fieldwork Days	Resources	Output
2	0	Room, Projector, Flip chart paper, markers, Session Handouts	Action Plan

The **two-day workshop** allows participants to gain an understanding of key issues related to gender, extension and advisory services, and agricultural technologies and gender analysis. This two-day model, because it does not require fieldwork, can be conducted in settings where it would be difficult to directly

[1] Agricultural technologies are defined as "practices or techniques, tools or equipment, know-how and skills…[alone or together] …that are used to enhance productivity, reduce production and processing costs, and save on scarce resources or inputs, such as labor or energy" (Ragasa 2012: 5).

engage with farmers. With a shorter timeframe, it also accommodates participants who are unable to attend a week-long training. Within two-days the participants learn the principles of integrating gender analysis into technology design, use, and dissemination and how to conduct a preliminary gender analysis of agricultural technologies. At the end of the workshop, participants create an action plan for integrating gender issues into their work. This model was tested in Sierra Leone with an NGO network composed of local and international NGO staff. This workshop consists of two days of in-classroom training and no fieldwork. Review the Sample Agenda.

Table 2 Five-Day Workshop

Classroom Days	Fieldwork Days	Resources	Output
4	1	Room, Projector, Flip chart paper, markers, Session Handouts, Field coordinator, Vehicle, Driver, Interviewees (Technology Experts, Technology Users)	Research Plan

The **five-day workshop** provides participants with a balance of classroom and "hands on" learning. Participants will learn about the principles of integrating gender issues into technology design, use, and dissemination and how to conduct a preliminary gender-analysis of agricultural technologies. Participants use qualitative questionnaires to interview technology experts and farmers using technologies. It is encouraged that interviews are coordinated with a project or extension provider who can introduce the workshop participants to farming communities. At the end of the workshops participants conduct a preliminary analysis of the data collected and develop a research plan for conducting an assessment for a technology their organization is interested in promoting. This model was tested in Bangladesh with development practitioners. It consists of four days of classroom work and one day of fieldwork. Review the Sample Agenda.

Table 3 Nine-Day Workshop

Classroom Days	Fieldwork Days	Resources	Output
5	4	Room, Projector, Flip chart paper, markers, Session Handouts, Field coordinator, Vehicle, Driver, Interviewees (Technology Experts, Technology Users and Non-users, other value chain actors)	Technology Profile

The **nine-day** workshop puts equal emphasis on the in-classroom, fieldwork, and interpretation process. Participants using the qualitative questionnaires interview technology experts, technology users and non-users, and other value chain actors. It is encouraged that interviews are coordinated with a project or extension provider who can introduce you to farming communities. The Data Collection and Processing Plan and Worksheets in Part 2 are used to analyze data collected in the field. Analysis can be done as a team in the evenings. The outcome of the workshop is a technology profile. The workshop includes three days of in-classroom content followed by four days of fieldwork. Then, two days at the end of the workshop are used for completing the preliminary analysis and presentations. This model was tested in Nepal and Sierra Leone with undergraduate and graduate students from Nepal, Sierra Leone, and the U.S. Review the Sample Agenda.

Monitoring System for Capacity Development

Few gender workshops are designed to examine the acquisition of knowledge and skills in a systematic way. This workshop includes a process for helping the facilitator understand the learning that is happening during the workshop using pre- and post-tests. These short tests include questions linked to the learning objectives and are scored (Table 4).

Table 4 Sample Pre-test question and learning objective

Illustrative Pre-test Question	Related Learning Objective	Scoring
1. Read the following statement(s) and circle whether they are true or false: Technology adoption is a social process. **True** or False Improving women's land ownership is the most important strategy for closing the gender gap in agricultural productivity. True or **False** Men farmers are more inclined to adopt technologies than women farmers. True or **False**	1. Understand key issues related to gender, extension and advisory services, and agricultural technologies	1 point for each correct answer (3 points total)

These tests have been used to understand the effect the workshop has had on the acquisition of knowledge and skills of participants. On their own, these evaluations mechanisms are insufficient to get a complete picture of what participants have gained during the workshop and do not capture whether participants are able to apply the skills back in their own institutions. They are one mechanism we offer to begin to understand capacity development in a workshop. See Annex B for the full set of pre- and post-test materials.

Reflections

Building trust between the facilitator and participants and among participants is key to creating a good learning environment. Participants arrive to workshops shaped by their environments and roles. Factors like differences between participants' knowledge and skills, language abilities, familiarity with or hierarchy among participants affect the learning environment. You can shape a learning environment that encourages open participation and breaks down barriers between groups of people by:

- **Arranging furniture to create an environment for learning and sharing**. Cluster participants at small tables signaling opportunities for sharing with each other rather than extracting information only from the facilitator.
- **Using innovative facilitation techniques.** Throughout this process Cultural Practice, LLC has found facilitation techniques, like those from Liberating Structures to be particularly helpful. They are designed to find effective ways to invite participation, distribute power, configure groups, and divide time between activities to facilitate learning.
- **Breaking the ice** during introductions by asking everyone to share something about themselves that no one in the group knows.

- **Using small groups.** Participants who are less inclined to speak up in plenary the opportunity to learn and share more comfortably in small groups. It also allows participants to take ownership of their learning through interaction with one another.
- Encouraging participants **"play the game"** and step outside their comfort zone.

Workshop Materials

In this section, you will find guidance on delivering key sessions in the "Addressing Gender Issues in Agricultural Technology Design, Use and Dissemination." The table of contents below features the key sessions included in the guide. Within each of those sessions you will find the sessions descriptions:

- Name of the session
- Objectives for the session
- Duration
- Format (e.g., Group discussion, lecture)
- Equipment and Supplies needed
- The workshop includes several participatory activities. Instructions for facilitating those activities are also included in the materials. Each activity description includes the purpose of the activity, format, timing, and instructions. Supplementary materials including handouts and case studies are also included among the materials.
- Handouts for activities are provided in Annex C.

Session and Activity Descriptions

The session descriptions and slides are presented in the order in which they are delivered during the workshop. Activity descriptions are also included and found within the sessions to which they correspond. In designing your workshop, you may wish to add other sessions or activities to the workshop.

Session: Welcome and Introduction

Objectives

- Understand purpose and agenda of the workshop
- Become familiar with participants
- Establish principles of dialogue and conduct for the workshop

Duration	1 hour
Format	Group discussion and ice-breaker activity
Equipment and supplies	Computer and projector

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Workshop Objectives

At the end of the workshop, participants will:

- Understand key issues related to gender, nutrition, extension and advisory services, and agricultural technologies
- Understand principles of integrating gender analysis into technology design, use, and dissemination
- Be able to conduct a preliminary gender analysis of agricultural technologies

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

4

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Background

This workshop was developed as part of the USAID-funded Integrating Gender and Nutrition within Agricultural Extension Services (INGENAES) Project.

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

The agenda bullets should be modified based on the workshop model selected.

The facilitator writes down the rules provided by the participants onto flip chart paper and puts it on a visible space on the wall for the entire duration of the workshop.

Session: Purpose and Role of Technologies in Agricultural Development

Objectives

- Understand the role of technologies in agricultural development
- Become familiar with different types of agricultural technologies
- Be able to describe relationship between agricultural technologies and extension and advisory services

Duration	45 minutes
Format	Lecture and group discussion
Equipment and supplies	Computer and projector

Activity: This is the best pen you'll ever use!

Purpose

To reflect upon the incentives and drivers of adoption

Format

Pairs

Timing

30 minutes including report out

Instructions

1. Have participants divide into two groups: Group A and B.
2. Group A will take 1 minute to pick an object that they will use to describe in a convincing manner to another participant. The aim is to convince the other participant to want to use the object.
3. Individuals in Group A will pair up with one person in Group B and take 1 minute to describe the object to the other person. At the end of the minute, Group B can ask questions (30 seconds). Group A can repeat this process three times with different Group B individuals.
4. Report out by asking Group A and B participants to share what happened. Use the questions below:

For Group A:

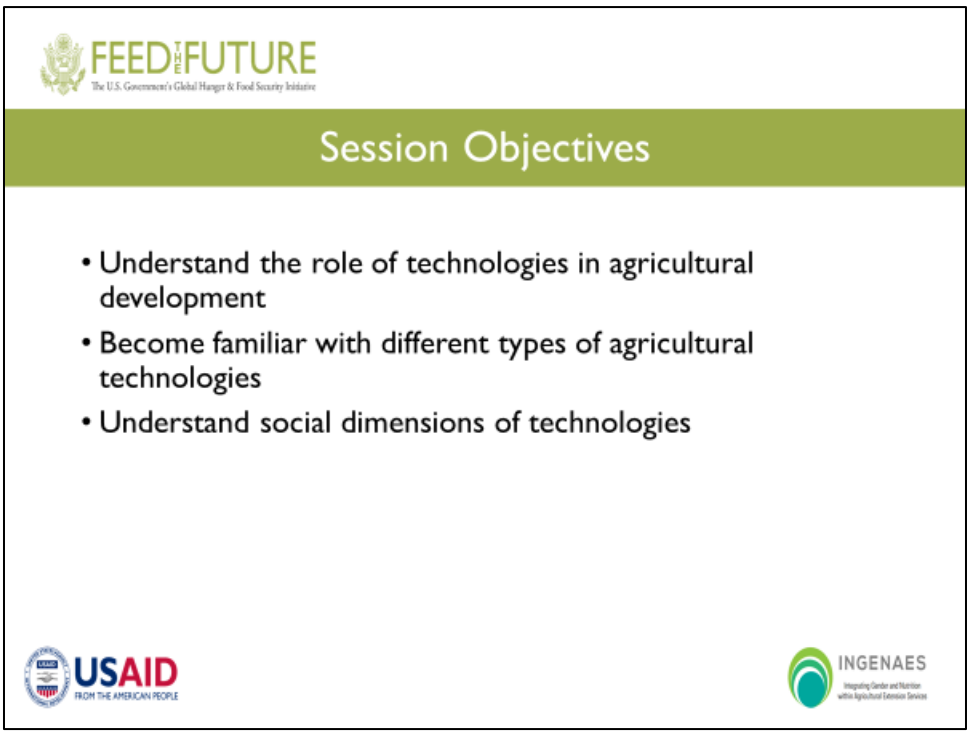
- What types of things did you say about your object?
- How did you appeal to your audience?
- Did it change when you moved from one person to another?

For Group B:

- Of all the objects you were introduced to, what did you perceive as being the most interesting to you? Why?
- What was convincing about different people's pitch?

5. Then reverse the positions. Group B individuals should pick an object and describe it to Group A participants.
6. Report out by asking Group B participants
   - What types of things did you say about your object?
   - How did you appeal to your audience?
   - Did it change when you moved from one person to another?
7. To close the activity, the facilitator should draw out the following elements of the conversation, highlighting that the exercise is meant to have the participants consider:
   - The different kinds of ways objects were described or the different appeals that were made. Did the descriptions of the technology appeal to the object's usefulness? Were the appeals emotive? Were they sensory?
   - Differences in the perceptions about the same object - for example, did the three people perceive the object in the same way?

See facilitator instructions above.



FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Science and Tech for Ag Development

Science and technology are the foundation of **increased agricultural productivity**

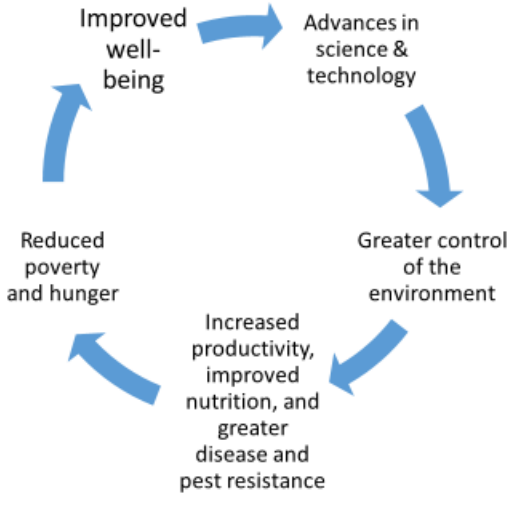
- They offer the possibility of greater control of the environment
- They can reduce drudgery, making labor more efficient
- They improve the quality and quantity of food, feed, fiber, and fuel

USAID FROM THE AMERICAN PEOPLE

INGENAES

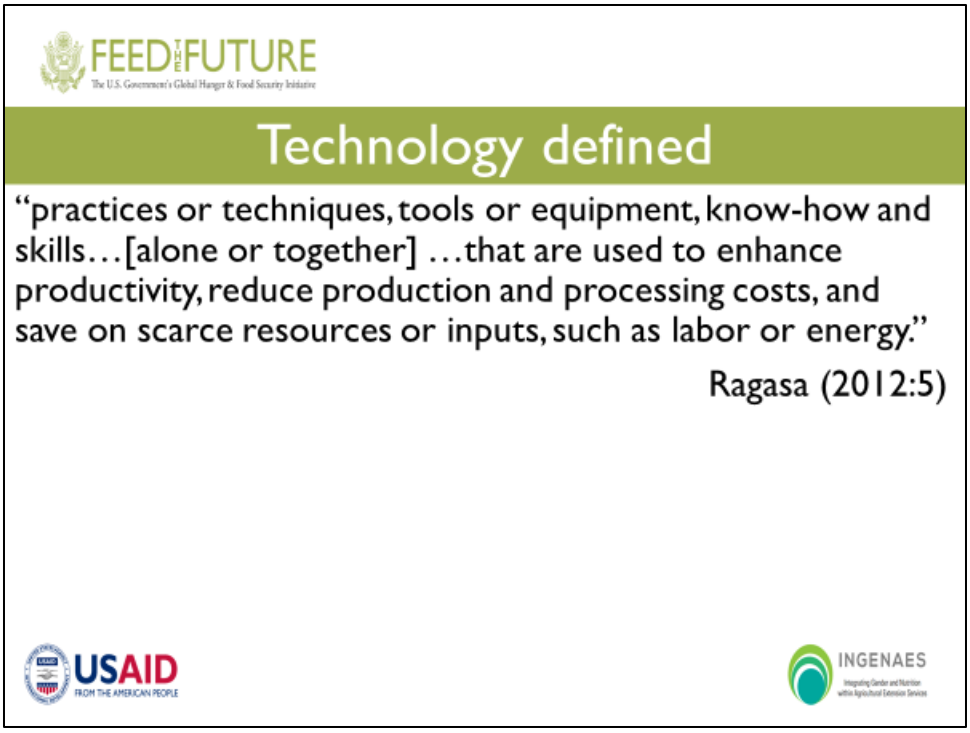
FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

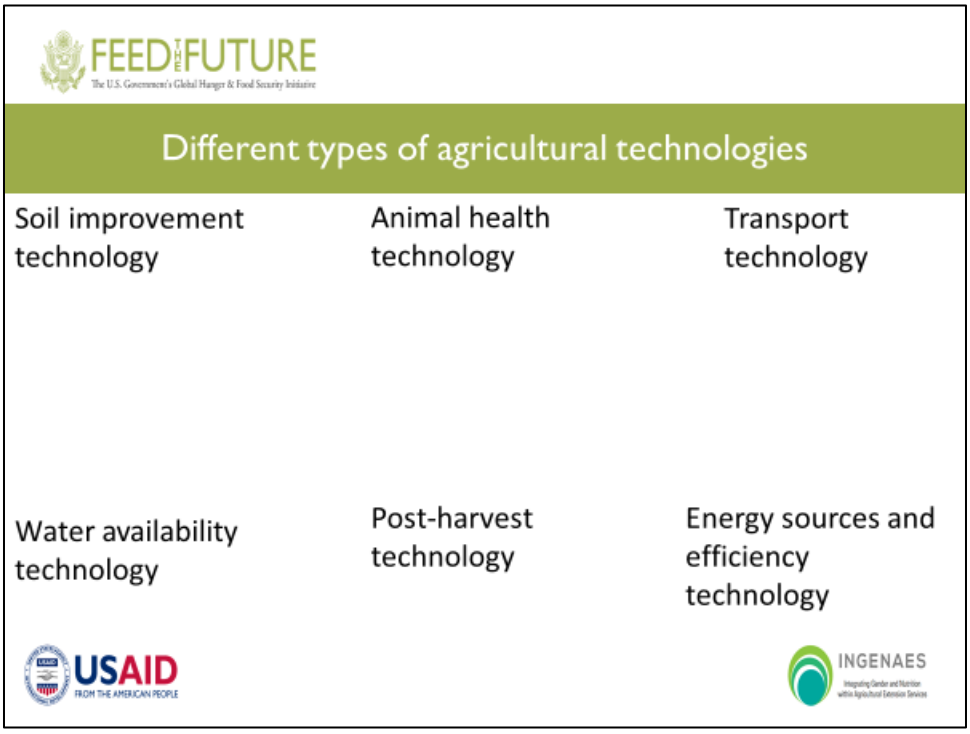
Investments in S&T have many benefits



USAID FROM THE AMERICAN PEOPLE

INGENAES

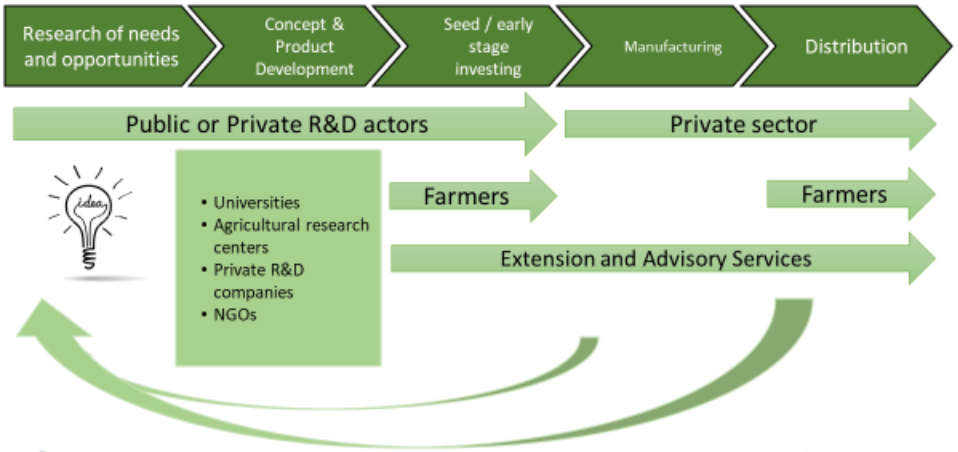




You may insert images of technologies that match the different types described on the slide. Ask participants to identify the purpose of each technology pictured.

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

How are technologies designed and disseminated?

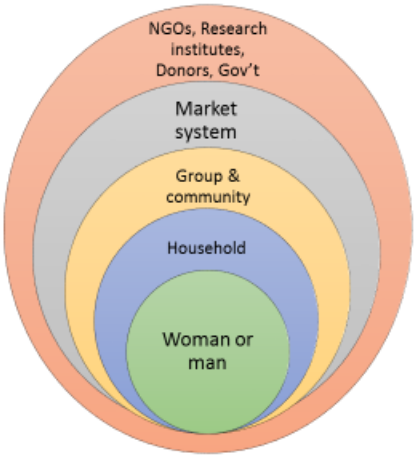


USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Design and dissemination as a social process



- Men and women exist in a social context – they are not isolated individuals
- This context consists of different institutions – households, communities, associations, markets, research organizations
- Individuals and institutions are influenced by and influence each other
  - We shape institutions
  - They shape us

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Characteristics that influence use

Individuals

- Who is the potential user?
- How does this person **perceive** the technology?
  - Ease of use
  - Usefulness
- Is this person able or willing to pay for technology or using the technology?
- Do the benefits outweigh the individual's costs?

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Technology

- Ease of use
- Usefulness
- Compatibility with needs and preferences
- Availability
- Affordability
- Effectiveness

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Additional factors

- What other factors are necessary for individuals to be able to access or make use of the technology?

- Complementary inputs
- Accessibility
- Capital and infrastructure investments
  - E.g., irrigation or credit
- Supportive social norms
- Differences in agro-ecological zones, land size and quality
- Preferences related to taste, texture, color, cooking
- Government policies that distort prices
  - E.g., tariffs, subsidies, quantity restrictions

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

How do gender differences influence design, use, and dissemination of technologies?

Men's and women's different:

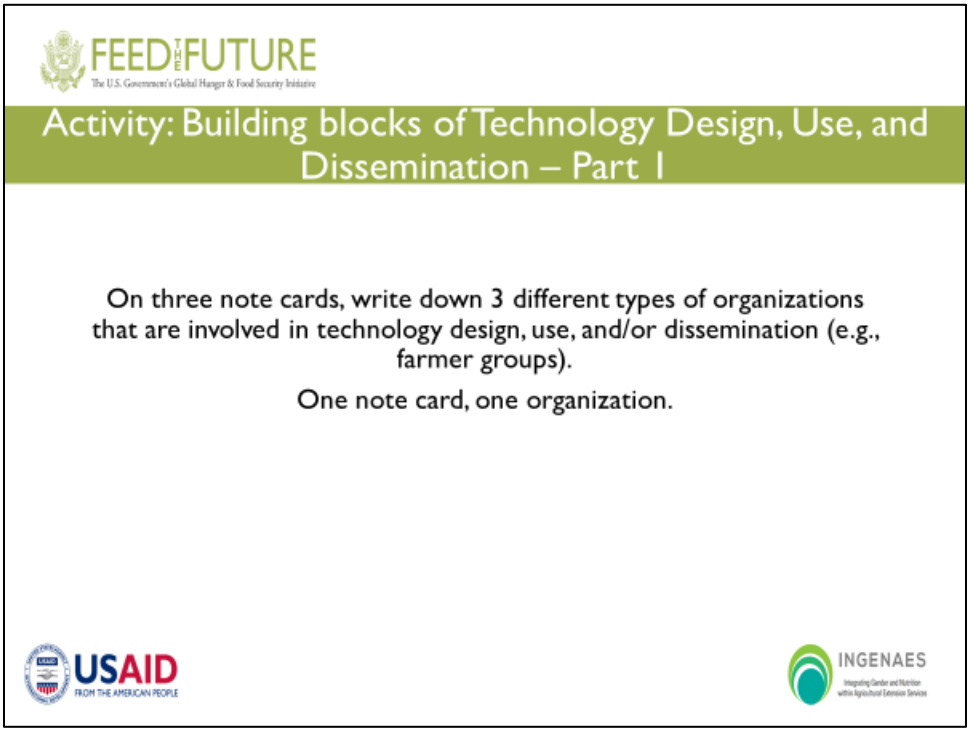
- **assets** and initial endowments (e.g., education) structure their different capabilities to access, control, and own agricultural technologies
- **crop choices and production practices** require or benefit from different technologies
- **roles** in agriculture shape which technologies they use
- **beliefs** about appropriate work or appropriate locations for work may limit their choice of technologies
- status **under the law** or positions **in institutions** shape their rights to benefits (education, credit, political power, and resources) that influence the technologies they use

USAID FROM THE AMERICAN PEOPLE

INGENAES

Activity: Building blocks of Technology Design, Use, and Dissemination – Part 1

Purpose	To identify organizations that are involved in technology design, use, and dissemination
Format	Small group
Timing	25 minutes including report out
Instructions	1. Give small groups notecards. 2. Ask each group to identify three different types of organizations that are involved in either technology design, use, and dissemination. Each organization should be listed on a different note card.(10 minutes) 3. Invite the groups to arrange (cluster) the organizations by type. E.g., Extension, research organizations, manufacturers, etc. (10 minutes) 4. Report out: Have a group representative identify the different types of organizations involved in technology design, use, and dissemination. (5 minutes) 5. You will build on this activity later during Part 2.



Session: Key gender concepts

Objectives

- Be able to identify key gender concepts
- Be able to identify gender-related challenges and opportunities in agricultural development

Duration	45 minutes
Format	Lecture and group discussion
Equipment and Supplies	Computer and projector

Note: This session is useful for establishing a common understanding of key gender, nutrition, and food security concepts covered in sessions including the Gender Dimensions Framework. Understanding Gender-based constraints, and the sessions linked to the three areas of inquiry: Time and Labor, Food Availability, Quality, and Safety, and Income and Assets. This guide includes one activity. We recommend facilitators add other activities to clarify gender concepts and definitions. Consult https://www.igwg.org/training/ for some ideas.

Activity: Drawing a Farmer

Purpose	To reflect upon stereotypes and ideas about who is a farmer
Format	Individual and small group
Timing	15 minutes including report out
Instructions	Ask participants to draw a picture of a farmer (5 minutes). Have participants share their pictures with each other in small groups. In plenary, invite participants to share key aspects of their pictures, drawing out elements that relate to sex and gender.

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Activity: Draw an ideal man and woman

1. Divide into two groups
2. Draw a picture of an ideal man and an ideal woman (5 minutes)
3. Discussion (10 minutes)

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Session Objectives

- Be able to define key gender concepts
- Be able to identify gender-related challenges and opportunities in agricultural development

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Concepts

Sex

- Biologically defined and genetically acquired differences between males and females
- Defines "males" and "females" independently of each other
- Is the same around the world

Gender

- Socially defined and culturally learned differences between men or women
- Defines "men" and "women" with reference to the socio-cultural relationships between them
- Varies from place to place and over time

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Gender roles

Gender roles are the behaviors, tasks, and responsibilities that are considered **appropriate** for women and men as a result of socio-cultural norms and beliefs.

When do we learn gender roles?

Do gender roles change overtime?

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Gender relations

Gender relations are the social relationships between men and women shaped by beliefs and social institutions

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Gender equality and gender equity

Gender equality is the **GOAL**. It refers to the ability of men and women to have equal opportunities and life chances.

- **It does NOT mean that resources or benefits must be split evenly between men and women**

Gender equity refers to fairness in representation, participation and benefits. The goal is that both women and men have a fair chance of having their needs met and each has equal access to opportunities for realizing their full potential.

- **It refers to the processes used to achieve gender equality.**

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Gender Disparities: What shapes them?

Nepal

- In 2008, women owned about 5% of all land in Nepal; after a change in law removing land titling fees for women, ownership increased to 33% in 3 districts.[4]
- In 2010, women were 48.1% of those economically active in agriculture [2]
- Secondary school participation, Net attendance ratio (%) 2008-2012, male: 74.2%; female 66%

1. http://ebrary.ifpri.org/cdm/ref/collection/p15738coll2/id/129823
2. http://www.fao.org/docrep/013/i2050e/i2050e.pdf
3. http://www.unicef.org/infobycountry
4. http://www.usaidlandtenure.net/sites/default/files/country-profiles/full-reports/USAID_Land_Tenure_Nepal_Profile.pdf

USAID FROM THE AMERICAN PEOPLE

INGENAES Integrating Gender and Nutrition within Agricultural Extension Services

40

The data can be changed for different countries.

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Food Security

Food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life. (World Food Summit, 1996)

USAID FROM THE AMERICAN PEOPLE

INGENAES Integrating Gender and Nutrition within Agricultural Extension Services

41

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Food Security: Four Pillars

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Gender Dimensions of Food Security

- Women and men play different roles in ensuring food security for their households/ communities
  - Crops
  - Growing and cooking food for home consumption
  - Processing foods
- Differences in men's and women's use of income
- Differences in access to assets impacts food production
- Food discrimination in the household

USAID FROM THE AMERICAN PEOPLE

INGENAES

Session: Agricultural Value Chains, Technology Design, Use, and Dissemination, and Extension & Advisory services

Objectives

- Become familiar with agricultural value chains
- Be able to describe relationships between extension and advisory services and technology development, use, and dissemination
- Become familiar with gender issues in agricultural value chains

Duration	1 hour and 15 minutes
Format	Lecture and small group activity
Equipment and supplies	Computer and projector Blank sheets

The content and slides from this session are adapted from:

- Rubin, D. and C. Manfre. 2014. "Promoting Gender-equitable Agricultural Value Chains: Issues, Opportunities, and Next Steps." In A. Quisumbing, R. Meinzen-Dick, T. Raney, A. Croppenstedt, J. A. Behrman, and A. Peterman (eds.) *Gender in Agriculture and Food Security: Closing the Knowledge Gap*. Springer.
- Rubin, D., C. Manfre, K. Nichols Barrett. 2009. "Promoting Gender Equitable Opportunities in Agricultural Value Chains: A Handbook" USAID GATE Project, Arlington, VA: dTS.

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Session Objectives

- Become familiar with agricultural value chains
- Be able to describe relationships between extension and advisory services and technology development, use, and dissemination
- Become familiar with gender issues in agricultural value chains

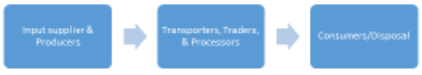
USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

Definition of a value chain

- Value chain
- *Supply chain*
- **Market chain**
- **Global commodity chain**
- *Filiere (thread)*
- International Assembly Line

A value chain is a linked set of activities and enterprises that brings a product from conception through disposal.



46

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Value Chain Analysis

… is the process of documenting and analyzing the operation of a value chain, and usually involves mapping the chain actors and calculating the value added along its different links.

There is no single method for doing a value chain analysis.

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Mapping of a value chain

Value chain maps can be used to show the:

- Flow of goods and services
- Linkages between different actors
- Participation of men and women
- Value addition across the chain

The actors that appear in a value chain will depend on the product but can include:

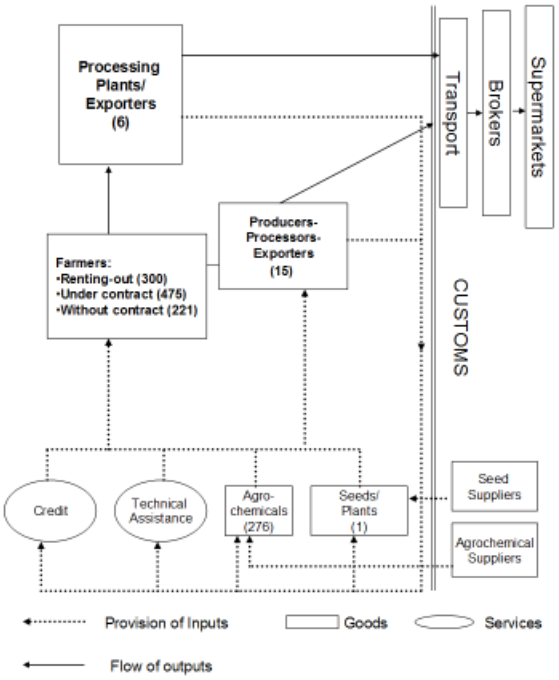
- Farmers
- Farmer groups
- Input Suppliers
- Banks or other financial institutions
- Buyers
- Extension officers or other technical service providers
- Processors

USAID FROM THE AMERICAN PEOPLE

INGENAES

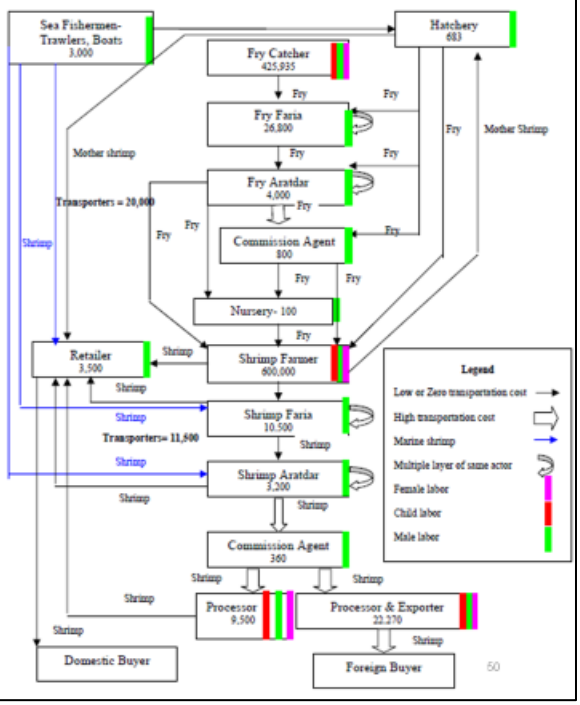
Artichoke Value Chain, Peru

Rebosio, Gammage, and Manfre 2007



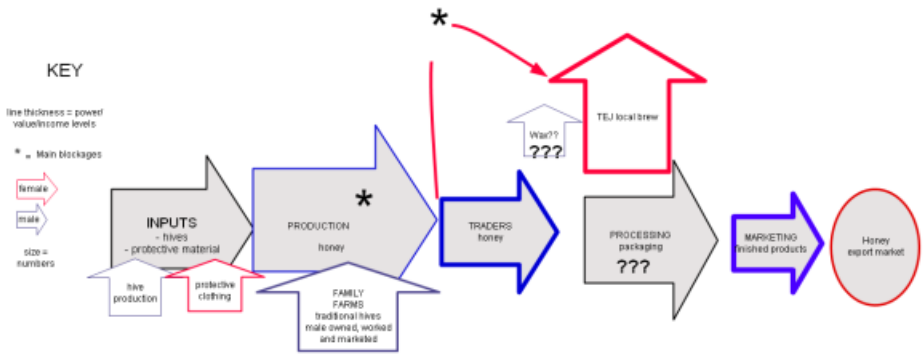
Shrimp value chain, Bangladesh

Gammage, Swanberg, Khondkar, Hassan, Zobair, and Muzareba 2006



FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Honey value chain, Ethiopia



Source: Mayoux, L., and G. Mackie. 2007. Making the Strongest Links: A practical guide to mainstreaming gender analysis in value chain development. Addis Ababa, Ethiopia: International Labor Organization.

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Value Chain for Development

- Potential for increased farm enterprise income
- Creation of additional employment opportunities through direct and indirect pathways (on-farm and off-farm opportunities)
- Better prices for products (especially for value addition and quality)
- More predictable and stable pricing arrangements (e.g., contracts)

The benefits however are not guaranteed…

- Benefits (and risks) depend on who you are and how you enter the chain
  - Farmers, Wage Laborers, Entrepreneurs

USAID FROM THE AMERICAN PEOPLE

INGENAES

52

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Common Constraints for Smallholders

- Small land holdings
- Low productivity or lack of access to productive technologies
- Lack of access to affordable inputs and BDS
- Lack of access to market information
- Limited range of finance and credit options
- Weak producer associations
- Weak market linkages
- Lack of coordination between public and private sector stakeholders
- Trust

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

53

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Extension and advisory services (EAS) defined

"Rural advisory services, also called extension, are all the different activities that provide the information and services needed and demanded by farmers and other actors in rural settings to assist them in developing their own technical, organisational, and management skills and practices so as to improve their livelihoods and well-being."

(Christoplos 2010)

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

What role do extension and advisory services (EAS) play in value chains?

Discussion

USAID FROM THE AMERICAN PEOPLE

INGENAES Integrating Gender and Nutrition within Agricultural Extension Services

55

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

How do EAS strengthen smallholder value chain performance?

Farmers' needs

- Getting accurate technical knowledge from other input suppliers or buyers
- Meeting quality and environmental standards (and certification)
- Managing complex contractual arrangements
- Maintaining consistent and reliable production
- Managing increased risk associated with dependence on fewer buyers

Extensionists' role

- Delivering technical knowledge to improve productivity and quality
- Delivering information about **new technologies**
- Demonstrating how to use **new technologies**
- Providing technical assistance for contracting
- Strengthening horizontal linkages between farmers
- Facilitating connections to other actors (input suppliers, buyers, processors)

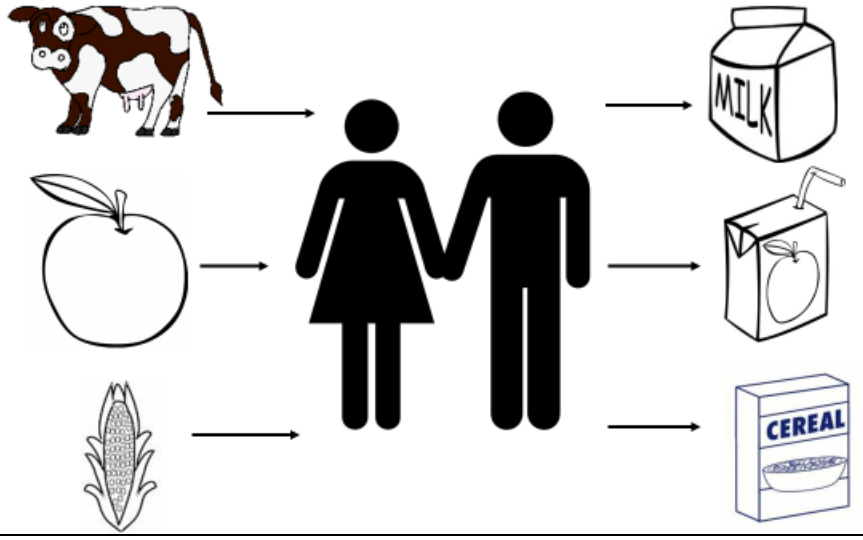
USAID FROM THE AMERICAN PEOPLE

INGENAES Integrating Gender and Nutrition within Agricultural Extension Services

56

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Addressing Gender Issues in Value Chains



FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Assumptions

- Value chains are embedded in a social context
- Value chain development affects gender roles and relationships
- Gender equity and value chain competitiveness are mutually supportive goals

USAID
FROM THE AMERICAN PEOPLE

INGENAES

Three main areas of inquiry

1. Determinants of participation (participation)
2. Opportunities for upgrading (performance)
3. Rewards, risk, and benefit-sharing (benefits)

Rubin and Manfre 2014

Participation

- What do you need to participate in a particular value chain as a producer?
  - Dairy or livestock meat value chain
  - Rice value chain
  - Maize value chain
  - Vegetables value chain
- What do you need to participate in a particular value chain if you cannot or do not wish to enter as a producer?
  - Wage worker
  - Small-scale entrepreneur

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Performance

- Improving volume or quality of products
  - Moving from hand milled to hammer milled maize that yields a higher profit
- Shifting to more predictable, better paying markets
  - From informal door-to-door traders to mills
- Maintaining or changing position in the chain
  - Moving from a mill operator position to a mill owner or manager

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Benefits

- Income or wages
- Social capital and networking
- Health insurance

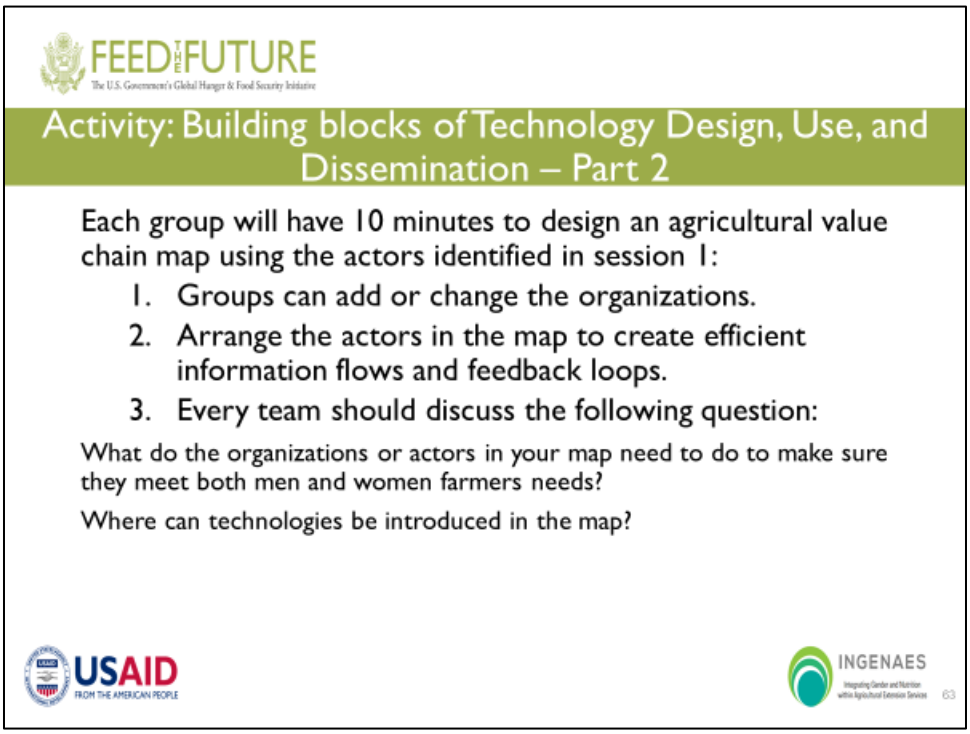
- How does your participation facilitate or impede your access to benefits?
- How do norms and values shape patterns of benefit distribution?

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

Activity: Building blocks of Technology Design, Use, and Dissemination – Part 2

Purpose	To develop an agricultural value chain map using the organizational actors identified during Part 1 of the activity.
Format	Small group
Timing	10 minutes including report out
Instructions	1. Each group will develop a value chain map using the organizational actors identified during Part 1. 2. Groups can add or change the organizations. 3. They should arrange the actors in a map to create efficient information flows and feedback loops. 4. Every team should discuss the following questions: a) What do the organizations or actors in your map need to do to make sure they meet men and women farmers' needs? b) Where can technologies be introduced in the map?



Session: Gender Dimensions Framework

Objectives

- Understand key gender concepts
- Be able to define gender analysis
- Become familiar with key analytical components of gender dimensions framework
- Be able to apply gender dimensions framework to case study

Duration	1 hour and 45 minutes
Format	Lecture and small group activity
Equipment and supplies	Computer and projector Blank sheets Handout: Case study Handout: Worksheet 1

Additional guidance of the Gender Dimensions Framework:

The INGENAES technology assessment draws on the Gender Dimensions Framework, developed by Cultural Practice, LLC to organize and interpret the data collected for the gender analysis. Other frameworks can be used instead provided the facilitator is able to adequately make the links between the chosen framework and the three areas of inquiry described in Part 2 and Part 3. In addition to the information provided below about the Gender Dimensions Framework, facilitators can also consult, Promoting Gender Equitable Opportunities in Agricultural Value Chains: A Handbook.

The Gender Dimensions Framework uses four dimensions of social life to organize and interpret information. These are: 1. Access to assets; 2. Practices and participation; 3. Beliefs and perceptions; and, 4. Laws, policies, and institutions.

Access to Assets

This dimension refers to the social relationships that shape access to the resources that are necessary to be a fully active and socially, economically, and politically productive participant in society. Assets include a range of tangible and intangible resources from which individuals can generate wealth or other value-added outputs. Some common assets include land, labor, capital, and natural resources. And other assets include education, social networks, and information.

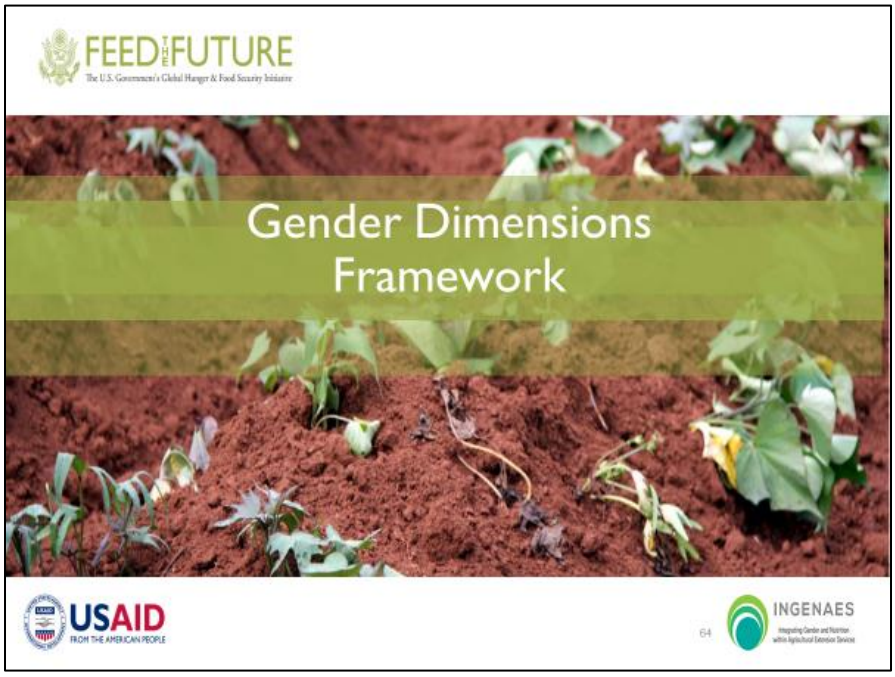
While this dimension is entitled "Access to Assets" it is really intended to understand a diverse set of rights to assets. This includes not just access, but control and ownership. This spectrum is particularly relevant for tangible assets, for example land, where men and women may have different types of access: Men may own land, but women may have the permission to use land. These distinctions may be important depending on where your project is being implemented.[2]

[2] For more information about the gender dynamics of assets in agriculture, see the following technical resource guide.

Practices and Participation
Gender norms define many aspects of how people behave and act. For example, they determine who does what kind of work in the household, as well as what kinds of jobs people are able to hold. They can also influence decisions about who should go to primary, secondary, or tertiary school. Ideas about gender roles shape who is allowed to travel to different locations, by oneself or in groups, and at what times they are allowed to be there. For example, in some countries restrictions are placed on women traveling outside of their home or on their own. Gender norms also influence who is able to attend community meeting or be members of groups, as well as how they participate in those meetings, for example if women are able to speak freely in front of men.

Beliefs and Perceptions
Men and women are socialized to learn about different aspects of life. Different places have different norms defining appropriate or acceptable behavior for boys, girls, women, and men. These norms affect who goes to school and for how long; who goes to work and what type of work; how far individuals can travel, when, and with whom. For instance, in many situations, boys and girls are expected to learn about different productive and household activities. Girls are often socialized to assume more responsibility for the care of children and elderly. As a result, women's roles as providers can increase the burden of care tasks for women, such as provision of food and caring for the sick, especially following an emergency or crisis (Oxfam 2013). Boys, on the other, may be taught that they need to assume primary responsibility for providing for the household.

Laws, Policies, and institutions
Gender influences the way people are regarded by and treated by both customary law and the formal legal code and judicial system. Men and women are often treated differently by formal and informal laws, policies, and regulations on issues surrounding ownership and inheritance, reproductive choice and personal safety, representation, and due process.



FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Session objectives

- Define gender analysis
- Review key analytical components of the Gender Dimensions Framework
- Apply the Gender Dimensions Framework to a case study

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Gender analysis

Gender analysis is a methodology that both:

1. Describes existing gender relations in a particular environment, ranging from within households or firms to a larger scale of community, ethnic group, or nation, and
2. Organizes and interprets, in a systematic way, information about gender relations to identify gender-based constraints and make clear the importance of gender differences for achieving development objectives.

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Gender-based constraints

Refer to potential restrictions on men's or women's access to resources or opportunities that are based on their gender roles or responsibilities. The term includes:

1. Measurable disparities that are revealed by sex-disaggregated data collection and gender analysis and
2. The potential factors that cause the conditions of disparity.

The gender-based constraint is a researchable hypothesis.

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Outcomes of a gender analysis

Information for the design of a gender-responsive agricultural project:

- Description of men's and women's roles
- Identification of factors that shape men's and women's opportunities
- Understanding of gender-based constraints
- Areas of action to ensure the men and women have equal opportunities to participate in and benefit from program activities

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

How is the GDF useful?

The GDF is a tool that can help you:

- Organize and analyze information about gender-related gaps or gender-based constraints
- Understand gender-related information (e.g., for background research)
- Develop questions for interviews
- Reflect on challenges and successes of meeting project targets, objectives, and goals

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

The Gender Dimensions Framework

69

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Who has what?

Access to assets

Men and women often have different levels of access to tangible and intangible assets.

- Land and labor
- Capital and credit
- New technologies
- Information and networks

- Men's and women's assets shape their opportunities in agriculture
- Lack of access to one asset may affect access to other assets

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Why does access to assets matter?

- Access to assets may be required to obtain technologies.
- Access to assets like land or labor are needed to gain from use of technologies.
- Access to technologies can improve the quality of crops.
- Access to improved technologies can lead to increased income.

USAID
FROM THE AMERICAN PEOPLE

72

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Who does what?

Practices and Participation

Men and women are often:

- Responsible for different tasks on the farm, in the firm, and in the household
- Allocating different amounts of time in these activities
- Performing similar tasks in different ways
- Responsible for different non-farm activities (e.g., childcare)

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Why do practices and participation matter?

- Men and women do different tasks in agricultural production and processing and within the household.
- Men's and women's productivity can be improved through use of technology.
- Being a man or a woman influences participation in trainings.

USAID
FROM THE AMERICAN PEOPLE

74

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

What is appropriate for men and women?

Beliefs and perceptions

Different places have different ideas about what is appropriate or acceptable behavior for boys and girls and men and women. These affect:

- Who goes to school and for how long
- Who goes to work and what type
- Where you can go and for how long

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Why do beliefs and perceptions matter?

- Beliefs about the appropriateness of women to perform types of work affects their use of technologies.
- Social norms affect where women can travel to access extension services.
- Perceptions that women are not farmers limits their access to extension services.

USAID
FROM THE AMERICAN PEOPLE

76

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

How are the above shaped by laws, policies, and institutions?

Laws, policies, and institutions

Men and women are often treated differently by formal and informal laws, policies, and regulations including issues surrounding:

- Ownership and inheritance rights
- Employment opportunities
- Wages
- Access to state resources (e.g. health, education, basic infrastructure, and public goods)
- Access to agricultural services, information and credit

Why do laws, policies, and institutions matter?

- Laws can restrict which jobs men and women have and when men and women can work.
- Government policies can promote dissemination of technologies to women farmers.
- Laws restricting women's credit options limit purchase of technologies.

78

Activity: Understanding the Gender Dimensions Framework

Purpose

To learn to use the gender dimensions framework

Format

Small group

Timing

1 hour including report out

Instructions

1. Divide the participants into small groups.
2. Individually participants should read the case study, highlighting information that pertains to each of the dimensions of the framework.
3. Together, they should fill out Worksheet 1 and discuss challenges or questions about the case study (see below) and the data. Have a few groups present findings.
4. In plenary, the facilitator will ask for information related to each dimension. The facilitator should be sure to ask the group:
    a. If all groups categorized the information in the same way
    b. If there was information that was difficult to organize by dimension.

The plenary discussion should be sure to emphasize the definition of each dimension. It should also highlight how the dimensions are not mutually exclusive but interrelated, highlighting for example the role of the Beliefs & Perceptions column in relation to the other rows.

It may be necessary to explain that the table is only used for gender-related data. Data that is "general" or is not disaggregated does not have to go into the table. However, some data may require further analysis to understand if there may be gender differences and these should be noted for further exploration and clarification.

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Activity: GDF and case study

Working in small groups:

1. Read the case study
2. Identify what you know about each dimension listed in column for men and for women ,using the information presented in the case study.
3. Brainstorm about what additional information you might want to know and make notes of that.

USAID
FROM THE AMERICAN PEOPLE

INGENAES

79

Dimension	Information about men		Information about women	
		Beliefs & Perceptions		Beliefs & Perceptions
Access (use, control, ownership) to assets				
Practices & participation				
Laws, policies, & institutions				

Session: Identifying Gender-based constraints

Objectives
Be able to identify gender-based constraints

Duration	1 hour
Format	Lecture and small group activity
Equipment and supplies	Computer and projector Blank sheets Handout: Case study Handout: Worksheet 1

Note: It is recommended that this session directly follow the Gender Dimensions Framework session.

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Session Objectives

- Be able to identify gender-based constraints

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Gender-based constraints

Refer to potential restrictions on men's or women's access to resources or opportunities that are based on their gender roles or responsibilities. The term includes:

1. Measurable disparities that are revealed by sex-disaggregated data collection and gender analysis and
2. The potential factors that cause the conditions of disparity.

The gender-based constraint is a researchable hypothesis.

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Identifying gender-based constraints

GENERAL CONSTRAINT

- Small landholdings
- Limited range of finance and credit options
- Lack of access to market information
- Low productivity

GENDER-BASED CONSTRAINT

- Laws or customs that restrict women's land ownership
- Bank policies that require a married women to obtain her husband's signature
- Social norms that limit women's networking abilities
- Inequitable distribution of household income

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Formulating a gender-based constraint

Identify a condition of disparity (an observed and measurable difference between men and women)

+

Identify the factors leading to the condition of disparity

=

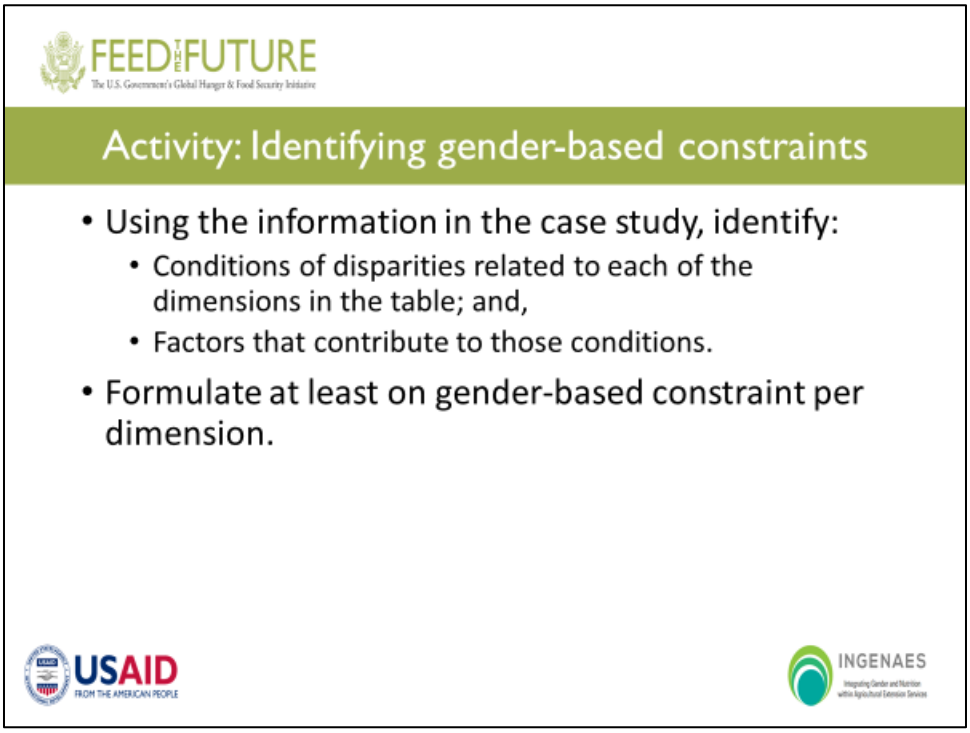
Formulate a cause and effect hypothesis: the gender-based constraint statement

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

Activity: Identifying gender-based constraints

Purpose	To identify conditions of disparity and factors that contribute to those conditions
Format	Small group
Timing	30 minutes including report out
Instructions	1. Divide the participants into small groups. 2. Using the information in the case study to identify conditions of disparity related to each of the dimensions in Worksheet 1. These dimensions include access to assets, practices and participation, laws policies and institutions, and beliefs and perceptions. 3. Identify the factors that contribute to those conditions of disparity. 4. Formulate at least one gender-based constraints per dimension 5. Return to Worksheet 1 completed during the Activity: Understanding the gender dimensions framework. 6. Each group presents one gender-based constraints statement



Dimension	Condition of disparity (inequality)	Potential factors causing the disparity	Gender-based constraint
Access to assets			
Practices and participation			
Laws, policies, and institutions			

Session: What is a technology assessment?

Objectives

- Understand the purpose of a gender-responsive and nutrition-sensitive technology assessment
- Understand the elements of a gender-responsive and nutrition-sensitive technology assessment

Duration	75 minutes
Format	Lecture
Equipment and supplies	Computer and projector Technology Profiles[3]

[3] The Facilitator(s) can distribute INGENAES technology profiles, which can be accessed here: http://ingenaes.illinois.edu/apply/technology-profiles/

Activity: Advantages and Disadvantages of the Cookstove

Purpose
To identify advantages and disadvantages of a technology.

Format
Small group

Timing
60 minutes including report out

Materials
Cookstove handout, five sheets of flip chart paper, and markers.

Instructions

1. Prepare pieces of flip chart paper. Do not show these sheets until you introduce the activity.
    a) Sheet 1 – Write the question: What is the purpose of the technology?
    b) Sheet 2 - Write the question: What are the advantages and disadvantages of the cookstove related to people's time and labor? [Divide the sheet into two sections, one for advantages and the other for disadvantages]
    c) Sheet 3- Write the question: What are the advantages and disadvantages of the cookstove related to people's food availability, quality and safety? [Divide the sheet into two sections, one for advantages and the other for disadvantages]
    d) Sheet 4 – Write the question: What are the advantages and disadvantages of the cookstove related to people's access to income and assets? [Divide the sheet into two sections, one for advantages and the other for disadvantages]
    e) Sheet 5 – Write the question: What more do you want to know?
2. Ask participants to read the hand out describing the cookstove technology (10 minutes).
3. In plenary ask the participants to identify the purpose of the technology. Write the purpose on Sheet 1. (2 minutes)
4. Introduce the task of identifying advantages and disadvantages of the technology for people related to food availability, quality and safety; time and labor, and income and assets. (5 minutes)
5. Divide the group into three groups. Each group should be assigned to start at Sheet 2, 3, or 4. Instruct participants to rotate to the next sheet of paper and either add to the list or add questions to the advantages or disadvantages already on each list. Participants should rotate every five minutes. (15 minutes)
6. In plenary, move from Sheet 2 – 4 and review the advantages and disadvantages listed on each sheet. Ask each group to present what they added to the sheet and explain who benefits from the technology (men or women). Other participants can ask questions and add detail. The facilitator should add advantages and disadvantages which don't fit in sheets 2 – 4 to sheet 5. (10 minutes on each sheet, for a total 30 minutes)

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Activity: Advantages and Disadvantages of the Cookstove

- Read the hand out on cookstoves
- Describe the purpose of the technology

Instructions

- Divide the group into three groups.
  - Answer the question written on the sheet of paper about the advantages/disadvantages of the technology. BE SPECIFIC!
  - Rotate to the next question. Add to the list of advantages/disadvantages or to the list.
- Discussion

USAID FROM THE AMERICAN PEOPLE

INGENAES Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Session Objectives

- Understand the purpose of a gender-responsive and nutrition-sensitive technology assessment
- Understand the elements of a gender-responsive and nutrition-sensitive technology assessment

USAID FROM THE AMERICAN PEOPLE

INGENAES Integrating Gender and Nutrition within Agricultural Extension Services

4

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

What is a G&N technology assessment?

- An analytical process to understand the potential gender-related and nutritional impacts of specific agricultural technologies on men and women

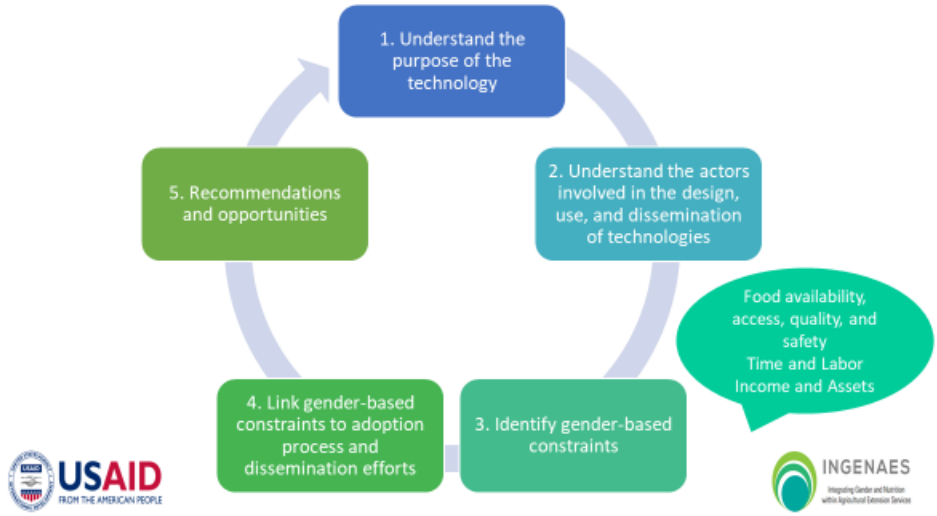
- Uses gender analysis
- Intended to highlight issues related to
  - Food availability, access, quality, and safety
  - Time and labor
  - Income and assets
- Used to identify how gender-based constraints shape adoption process and dissemination efforts
- Used to identify specific actions to improve design, use, or dissemination of technologies

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Process of the assessment



USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Understand the context

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Understand the technology

- Purpose – what are you aiming to achieve?
- Type of technology
  - Biophysical (e.g., new seed varieties)
  - Tangible or physical (e.g., equipment)
  - Intangible (e.g., practices)
- Actors involved in disseminating the technology
  - Projects
  - Government stakeholders
- Development of the technology
- Dissemination and use of the technology

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

8

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Identify the potential consequences of the technology

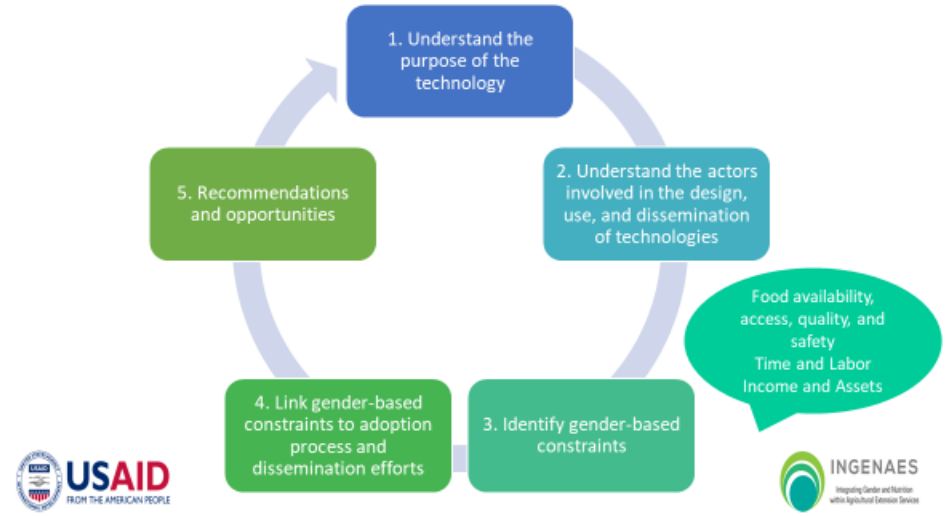
USAID FROM THE AMERICAN PEOPLE

INGENAES

9

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Process of the assessment



USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Key areas of analysis

- The impact of the technology on **food availability, access, quality, and safety**
- The potential consequences on men's and women's **time and labor**
- The extent to which the technology **alters the amount or the control of the income** by men and/or women

USAID FROM THE AMERICAN PEOPLE

INGENAES Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Data Collection

- How the technology is disseminated and used
- Users' knowledge of, experiences with or perceptions about the technology
- Interviews with range of stakeholders:
  - Extension agents, men and women technology users ad non-users, input suppliers

USAID FROM THE AMERICAN PEOPLE

INGENAES Integrating Gender and Nutrition within Agricultural Extension Services

12

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Recommendations and opportunities

USAID FROM THE AMERICAN PEOPLE

INGENAES Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Putting it all together

- How does your analysis inform the design of the technology?
- How does your analysis influence the adoption process?
- How does your analysis inform dissemination?

USAID FROM THE AMERICAN PEOPLE

INGENAES Integrating Gender and Nutrition within Agricultural Extension Services

Session: Time and Labor

Objectives

- Understand the relevance of time and labor to the design, use, and dissemination of agricultural technologies
- Understand how gender differences impact technology design, use, and dissemination
- Be able to assess the impact of technology on different groups of men's and women's time and labor

Duration	75 minutes
Format	Lecture and two group activities/discussion
Equipment and supplies	Computer and projector Flip chart paper Handout: Time and Labor - Scenarios

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Session Objectives

- Understand the relevance of time and labor to the design, use, and dissemination of agricultural technologies.
- Understand how gender differences impact technology design, use, and dissemination.
- Be able to assess the impact of technology on different groups of men's and women's time and labor.

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

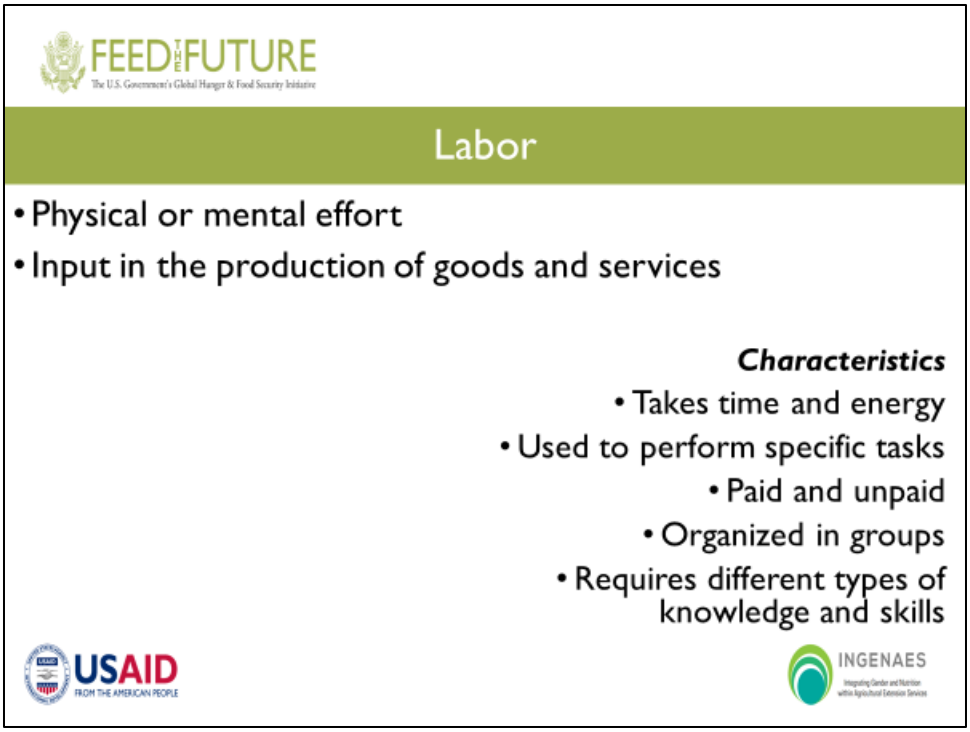
FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Time

- Conceptualized in different ways
- Measured
- Lost, spent and gained (shifts)

USAID
FROM THE AMERICAN PEOPLE

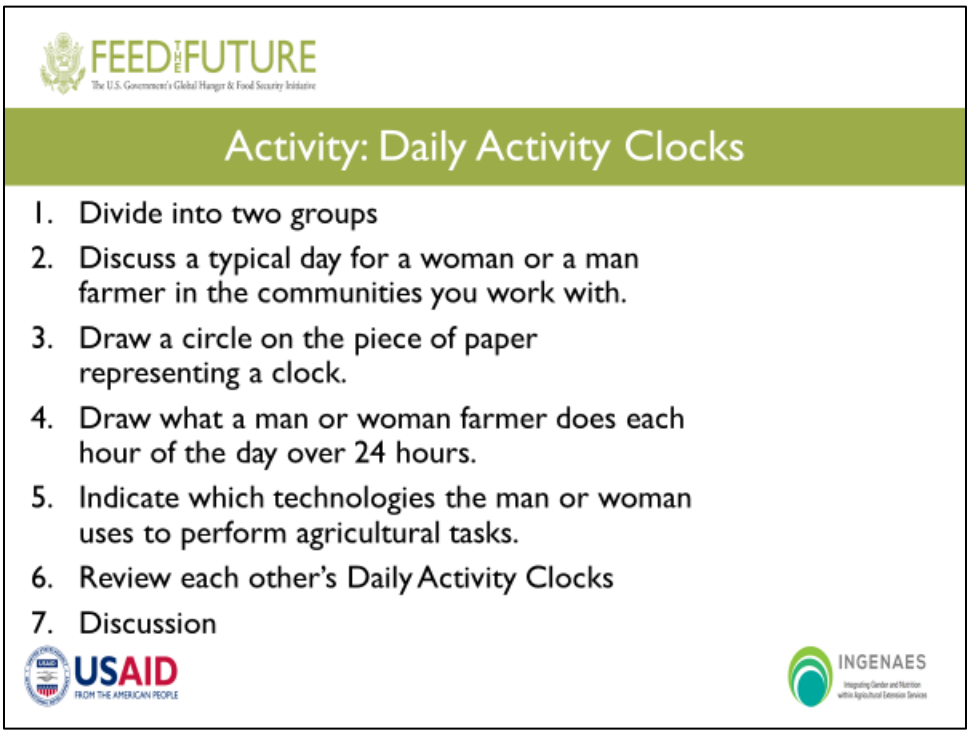
INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services



Activity: Daily Activity Clocks

Purpose	To become familiar with differences in men's and women's use of time throughout a day.
Format	Small group
Timing	20 minutes
Instructions	1) Separate the participants into small groups. 2) Ask participants to discuss a typical day for a woman or a man in the communities they work with. a) What does a man do from the moment he wakes up until he goes to sleep? What does a woman do from the moment she wakes up until she goes to sleep? b) Using the Daily Clocks ask participants to draw the activities onto the clock hour by hour. Simultaneous tasks can be listed in the same hour block. 3) Ask them to indicate which technologies the man or woman uses to perform agricultural tasks. a) Which technologies are they using on the farm? 4) Once everyone has completed their clocks in groups, participants review other groups' daily activity clocks. The Facilitator should prompt participants to take note of similarities and differences between the different activity clocks. 5) Facilitator leads a discussion with everyone about what they observed about the women's and men's daily workloads. 6) Write observations on a flip chart. **Discussion Questions:** General differences:

- What did you notice that was different about women's daily schedules and men's schedules?
- What was different or similar about men's and women's daily activity clocks:
  - Agricultural tasks (time spent and types)?
  - Caregiving/ household tasks (time spent and types)?
  - Leisure time, and sleep (time)?
- What influence does technology have on men's and women's time and labor:
  - What kinds of technologies were men using? Were women using?
  - How could the technology effect men's and women's time differently?



FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Discussion Questions

1. What did you notice that was different about men's daily schedules and women's schedules?
2. What was different or similar about men's and women's:
   - Agricultural tasks (time spent and types)?
   - Caregiving/ household tasks (time spent and types)?
   - Leisure time, and sleep (time)?
3. What kinds of technologies were men using? Were women using?
4. How could the technology affect men's and women's time differently?

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Division of Labor between Men and Women

- Socially constructed
- Effected by individual's asset endowment
- Changes over time

USAID FROM THE AMERICAN PEOPLE

INGENAES

Agricultural Tasks

- Labor-intensive and time consuming
- Cause physical strain, fatigue
- Require different skills

Key Gender Issues related to Time and Labor

- Differences in the agricultural and household tasks men and women do
- Differences in what is considered appropriate for men and women to do and spend time on
- Differences in restrictions on men's and women's time and mobility

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Why does time and labor matter for agricultural technologies?

- Change the amount of time spent on particular tasks
- Increase productivity of existing labor
- Reduce drudgery
- Change employment opportunities

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

Labor input into rice crop production in Vietnam (person days/hectare)		
Source: Impact of Row Seeder Technology on Women Labor: A Case Study in the Mekong Delta, Vietnam (Paris and Chi 2005).		
Broadcast Method		
Task	**Women**	**Men**
Land preparation	3.67	6.53
Seedbed preparation	.57	.70
Sowing	.57	1.73
Gap-filling	14.17	10.03
Hand weeding	13.83	6.90
Fertilizer application	4.70	3.10
Pesticide application	.63	5.40
Irrigation	1.17	3.67
Harvesting	19.03	26.40
Threshing and drying	13.80	14.97
TOTAL	72.14	79.43

Ask participants what they notice about men's and women's labor input. Ask participants what is different and similar about each task. Ask participants what the difference in men's and women's overall labor input. For the tasks highlighted in green, men's labor input into crop production is higher than women's. For the task highlighted in yellow women's labor input is higher than men's.

Activity: How can technologies affect different types of farmers' time and labor?

Purpose To consider how technologies affect men's and women's time and labor

Format Small group

Timing 20 minutes

Materials Time and Labor Scenarios Handout

Instructions

1) Divide into three groups
2) Each group gets one of the three scenarios.
   a) Scenario 1: Poor landless farmers
   b) Scenario 2: Farmers with small landholdings
   c) Scenario 3: Better-off farmers
3) Individuals read the scenarios and then in the group discuss the following questions:
   a) What impact does the technology have on men's time and labor?
   b) What impact does the technology have on women's time and labor?
   c) What information is missing that would be helpful to understand the impact on men's and women's time and labor?
4) Have each group report out on their discussion. They should describe the men and women in their scenario and the effects on men's and women's time and labor after the introduction of the row/drum seeder.

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Activity: Scenarios

- Divide into five groups
- Read the scenarios
- In groups discuss:
  - Impacts of the technology on men's time and labor.
  - Impacts of the technology on women's time and labor.
  - Additional information you need to know
- Report out and discussion

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

How is the GDF useful for understanding Time and Labor?

- How do men's and women's **access to assets** impact men's and women's time and labor?
- How do men's and women's **practices and participation** impact men's and women's time and labor?
- How do men's and women's **beliefs and perceptions** shape men's and women's time and labor?
- How do **laws policies and institutions** influence men's and women's time and labor?

USAID FROM THE AMERICAN PEOPLE

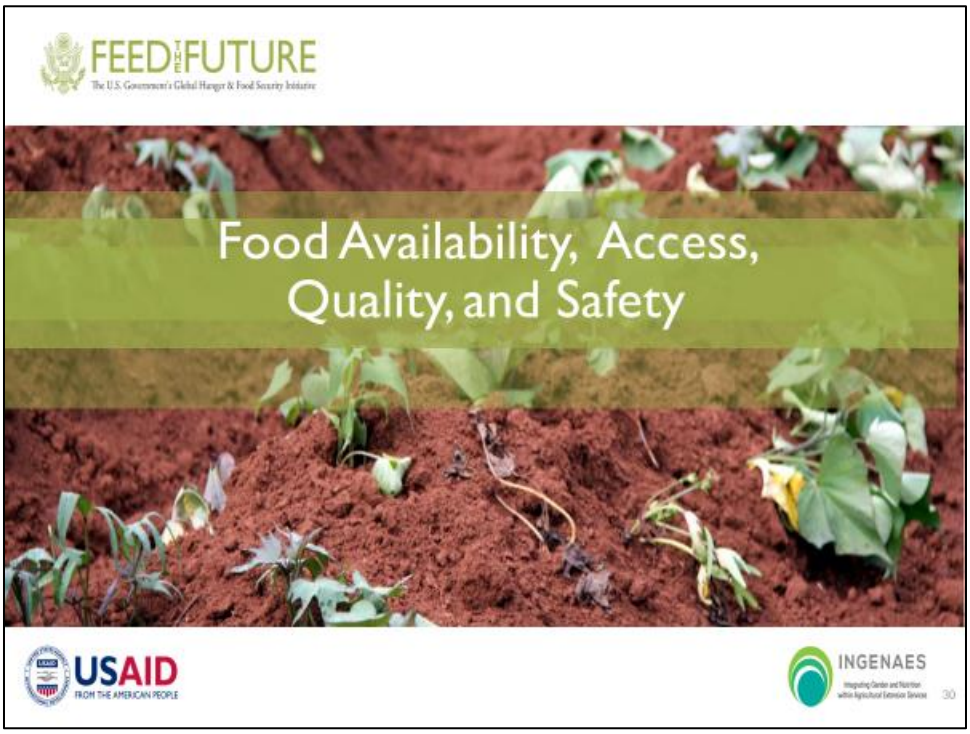
INGENAES

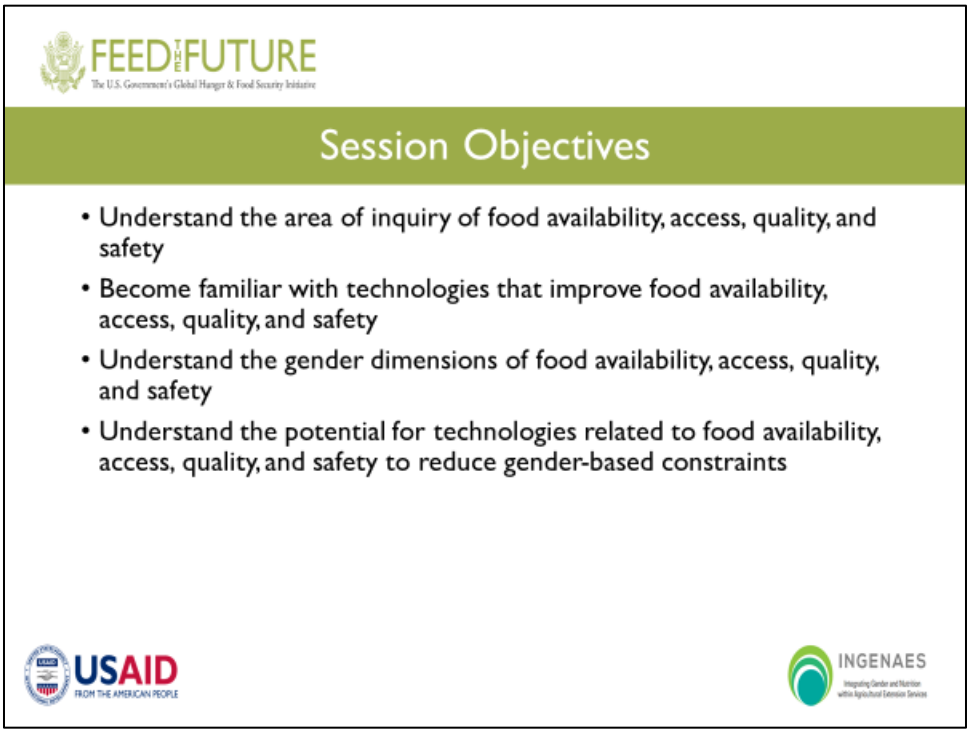
Session: Food Availability, Access, Quality, and Safety

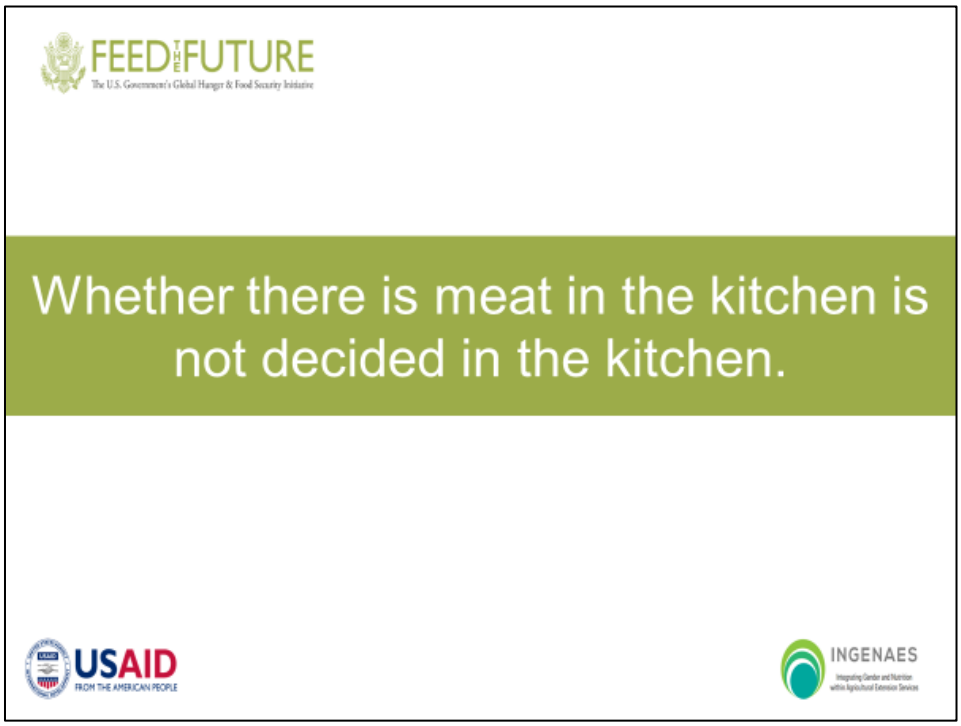
Objectives

- Understand how technologies address food availability, access, quality, and safety
- Understand how gender differences influence design, use, and dissemination of technologies related to food availability, quality, and safety
- Understand the potential for technologies related to food availability, access, quality, and safety to reduce gender-based constraints

Duration	75 minutes
Format	Group Activity Lecture
Equipment and supplies	Computer and projector







Facilitate a debate about what this might mean. 10 minutes and then do a report out. What does this sentence mean to you? How might it relate to gender?

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Food availability and access

- **Food availability**: Sufficient quantities of food of appropriate quality, supplied through domestic production (home consumption or purchase) or imports, including food aid (FAO)
- **Food access** refers to the condition when "households and all individuals within them have adequate resources to obtain appropriate foods for a nutritious diet. Access depends upon income available to the household, the household, on the distribution of income within the household and on the price of food" (USAID 1990)

- Technologies increase the quantity of food available, which
- ✓Increases the availability of food **at the household level**
- ✓Introduces more produce **into markets** that can be purchased
- ✓Allows farmers with a marketable surplus **to increase income** and purchase other foods

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Technologies for food availability

- Many agricultural technologies are intended to increase food availability, e.g.,
- ✓Improved seeds, varieties of plants & animals (genetic gains)
- ✓Fertilizers, pesticides, vaccines
- ✓Farm equipment
- ✓Irrigation and water capture

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Food quality and safety defined

- **Food safety:** The absence of hazards that make food injurious to the consumer health, e.g., harmful microorganisms; pesticide residues; misuse of food additives; chemical contaminants, and adulteration

Food quality:

- Food that is acceptable to consumers, based on factors such as appearance (size, shape, color, gloss, and consistency), texture, and flavor;
- nutritional characteristics;
- grade standards, and chemical, physical, and microbial properties

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Technologies for food quality and safety

- Biofortified varieties (vitA sweet potato, zinc wheat, iron beans, orange maize)
- Equipment for harvesting, threshing, cleaning, sorting & grading, drying (solar dryers), milling
- Food storage methods: Sealable bags, cold storage, metal silos
- Other processing: cooking, packaging for market

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

The relationship between FAQS

- Technologies that improve quality and safety can, at the same time, increase food availability
  - Storage bags

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Gender issues in food availability, quality, and safety

- Who uses these technologies?
- Who benefits from increased food availability, quality, and safety?

- Agricultural production decisions
- Decisions about what to consume and what to sell
- Decisions about what to purchase and how to prepare
- Distribution of food within the household

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

How is the GDF useful for understanding food availability and access

- How do men's and women's **access to assets** impact **food availability and access**?
- How do men's and women's **practices and participation** relate to **food availability and access**?
- How do **beliefs and perceptions** shape **food availability and access** for men and women?
- How do **laws, policies, and institutions** structure **food availability and access** for men and women?

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

How is the GDF useful for understanding food quality and safety

- How do men's and women's **access to assets** impact **food quality and safety**?
- How do men's and women's **practices and participation** relate to **food quality and safety**?
- How do **beliefs and perceptions** shape men's and women's ideas about **food quality and safety**?
- How do **laws, policies, and institutions** structure **food quality and safety**?

USAID
FROM THE AMERICAN PEOPLE

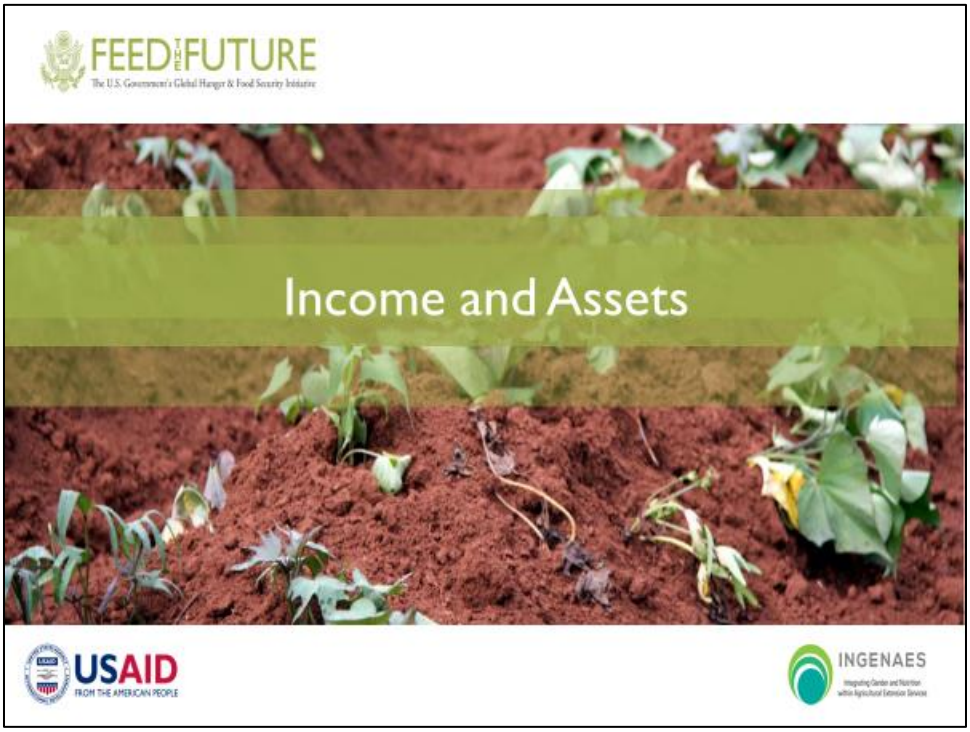
INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

Session: Income and Assets

Objectives

- Understand the relevance of income and assets to the design, use, and dissemination of agricultural technologies
- Understand how gender differences in economic lives impact technology design, use, and dissemination
- Understand how agricultural technologies can contribute to strengthening men's and women's accumulation and control of income and assets
- Be able to identify gender-based constraints related to income and assets that influence technology design, use, and dissemination

Duration	1 hour and 15 minutes
Format	Lecture and small group activity
Equipment and supplies	Computer and projector Handout: Money Management Scenarios



FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Session Objectives

- Understand the area of inquiry of income and assets
- Understand the relevance of income and assets to the design, use, and dissemination of agricultural technologies
- Understand the gender dimensions of food availability, quality, and safety
- Understand the potential for technologies related to food availability, quality, and safety to reduce gender-based constraints

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Income & Assets

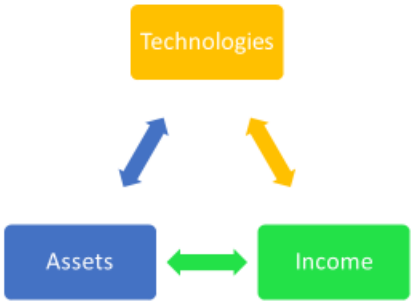
- Income: Money received, sometimes on a regular basis, for work or through investments
- Assets: Multi-dimensional stocks of wealth

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Technology – Assets - Income



- Technologies can lead to increases in income and assets
  - Higher productivity – increased income – investments in assets
  - Renting your technological assets – increased income
- Technologies are assets
  - Tractors and pumps
- Income and assets may be required to acquire or use technologies
  - Direct purchase of technologies
  - As collateral for loans
  - Necessary for using or gaining from technologies (e.g., land, labor, or livestock)

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Key Gender Issues related to Income & Assets

- Gendered patterns of asset accumulation
- Differences in men's and women's income-generating opportunities
- Differences in men's and women's financial responsibilities
- Gender issues in financial management and cooperation

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Gendered patterns of asset accumulation

- Men and women often accumulate different kinds of tangible and intangible assets – Examples?
  - Land
  - Capital and credit
  - New technologies
  - Information and networks
  - Jewelry/livestock
- Men and women accumulate assets in different ways – Examples?
  - Purchase
  - Inheritance
  - Gifts

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Gendered patterns of asset accumulation

- Men's and women's asset endowments enable different livelihood strategies
  - E.g., land, credit, networks
- Lack of access to one asset may affect access to other assets
- Men and women value assets differently
  - Jewelry versus land
- Use, control over, and ownership of assets differs by men and women

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Differences in men's and women's income-generating opportunities

Income is generated in different ways depending on an individual's or household's asset portfolio and local norms

- At the production level, men and women produce:
  - Different crops
  - Different volumes of the same crops
  - Crops that are either sold or consumed or both
- These crops generate:
  - Different amounts of income
  - Income at different frequencies

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Differences in men's and women's financial responsibilities

Men and women are often responsible for different kinds of household and investment expenditures

- Agricultural investments
  - New seeds
  - Farm technologies
- Household expenditures
  - School fees
  - Medical

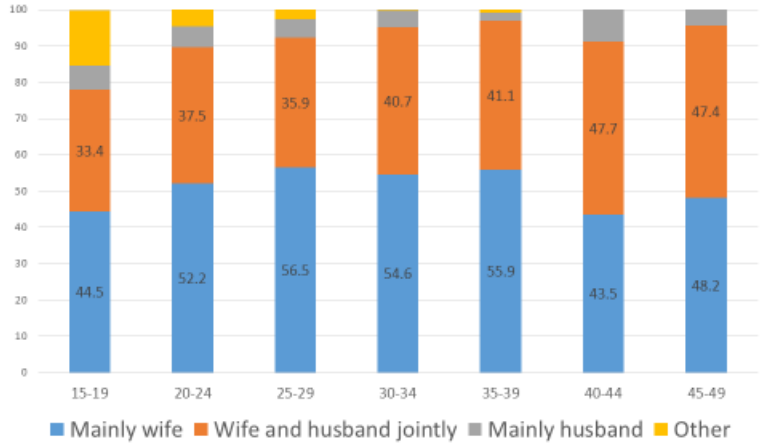
USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

Gender issues in access to, control over, and use of income & assets

- Access to, control over, and use of income and assets varies
  - Men and women can have different rights to the same asset
  - Men and women can have different rights to different assets
- The person who generates the income is not always able to use or control that income

Control over women's cash earnings, Nepal 2011



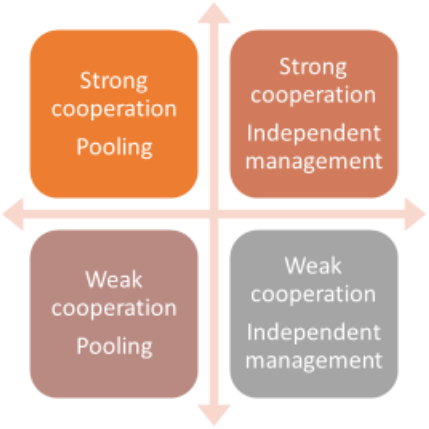
Percent distribution of currently married women age 15-49 who received cash earnings for employment in the 12 months preceding the survey by person who decides how wife's cash earnings are used

Source: Ministry of Health and Population - MOHP/Nepal, New ERA/Nepal, and ICF International. 2012. Nepal Demographic and Health Survey 2011. Kathmandu, Nepal: MOHP/Nepal, New ERA, and ICF International. Available at http://dhsprogram.com/pubs/pdf/FR257/FR257.pdf.

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Gender issues in financial management and cooperation

- Men and women in the same household may be generating income in different ways
- A household may pursue multiple financial management strategies:
  - Pooling income
  - Independently managing income
- Relative strength of cooperation is important to understand how to engage individuals and households in financial and investment decision-making



Johnson, S. Forthcoming. "We don't have this is mine and this is his": managing money and the character of conjugality in Kenya. *Journal of Development Studies*.

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Activity: Money management

- This activity consists of 3 role playing scenarios
- Six volunteers are needed for the activity
- Each pair will be given a husband-wife scenario
- The context for the scenarios is provided on the next slide.

USAID FROM THE AMERICAN PEOPLE

INGENAES

Activity: Money Management

Purpose	To understand gender issues in financial management and cooperation.
Format	Small groups
Timing	45 minutes
Materials	Handout: Money Management
Instructions	• This activity consists of 3 role playing scenarios • Six volunteers are needed for the activity • Each pair will be given a husband-wife scenario

Context for the scenarios: The rice harvest has just ended and husbands and wives are meeting to discuss how to use the income they will receive after the rice goes to market. All the women in the scenario produce vegetables for home consumption and sell whatever surplus they have. You are going to watch three different couples negotiate how to spend the money.

Women's priorities

1. New varieties of vegetable seeds, so that she can increase her homestead production and income
2. School fees for both their daughter and son
3. Jewelry for their 10-year old daughter

Men's priorities

1. New irrigation pump, the old one is broken
2. New power tiller
3. Schools fees for both their daughter and son

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Activity: Money Management - The context

The rice harvest has just ended and husbands and wives are meeting to discuss how to use the income they will receive after the rice goes to market.

All the women in the scenario produce vegetables for home consumption and sell whatever surplus they have.

You are going to watch three different couples negotiate how to spend the money.

Women's priorities

1. New varieties of vegetable seeds, so that she can increase her homestead production and income
2. School fees for both their daughter and son
3. Jewelry for their 10-year old daughter

Men's priorities

1. New irrigation pump, the old one is broken
2. New power tiller
3. Schools fees for both their daughter and son

USAID FROM THE AMERICAN PEOPLE

INGENAES Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

How is the GDF useful for understanding I&A

- How do men's and women's **roles and responsibilities** structure to access to and control over income and assets?
- How do **beliefs and perceptions** shape patterns of access to and control over income and assets?
- How do **laws policies and institutions** structure men's and women's access to and control over income and assets?
  - Access to property
- What **dimension** is missing?

USAID FROM THE AMERICAN PEOPLE

INGENAES Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Why do income and assets matter for agricultural technologies?

- Who is the consumer? What do you know about their financial profile?
  - Type of income, when, size
  - Control over that income or other income
  - Same for assets
- How can technologies be designed and disseminated to meet preferences and profiles of different consumer segments?
  - Affordability
  - Suitability
    - How do you package technologies? Does it match the size of people's assets (e.g., land)?
- Who will benefit financially from the use of the agricultural technologies?

USAID
FROM THE AMERICAN PEOPLE

INGENAES

Session: Knowing how you're doing

Objectives

- Understand the gender issues in designing indicators
- Understand gender-sensitive monitoring

Duration	45 minutes
Format	Lecture and small group activity
Equipment and supplies	Computer and projector

Note: This session is geared toward development practitioners managing or providing technical support to projects. It is also useful for other audiences, including students, to either introduce them to or strengthen their understanding of gender-sensitive monitoring systems.

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Session Objectives

- Understand the gender issues in designing indicators
- Understand gender-sensitive monitoring

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

"SMART" Indicators

Specific	The indicator clearly and directly measures a specific result for the objective it is measuring.
Measurable	The indicator is unambiguously specified so that all parties agree on what it covers and there are practical ways to measure the indicator.
Achievable	The measurement of the indicator is feasible and realistic, within the resources and capacity of the project/program, and the data are available.
Relevant	The indicator provides appropriate information that is best suited to measuring the intended result or change expressed in the objective.
Time-bound	The indicator specifies the specific timeframe at which it is to be measured.

USAID FROM THE AMERICAN PEOPLE

INGENAES

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Gender-Sensitive Indicators tell us ….

- ***If*** projects are affecting men and women differently
  - Are both men and women participating in project activities?
  - Are both men and women able to implement the recommendations provides or access the services offered?
  - Are both men and women receiving benefits from their participation?
- ***If*** projects are reducing gender disparities
  - Are women's incomes rising? Are they rising relative to men's?
- ***If*** projects are exacerbating existing or creating new disparities
  - Are women's workloads rising? Are they rising relative to men's?

USAID FROM THE AMERICAN PEOPLE

INGENAES Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Gender-"SMART" indicators

Sex-disaggregated	Any indicator about people is sex-disaggregated (M/F).
Mixed methods	Use both qualitative and quantitative methods (including participatory monitoring to collect monitoring data to measure change and elicit explanations of what change means to participants (men and women).
Accurate	Compare like with like. Use appropriate units of analysis. Don't compare households headed by men to those headed by women! The results do not translate to all men and all women.
Reduce gender-based constraints	Measure changes in an identified gender-based constraint, e.g., in access to credit, use of inputs, participation, income, etc.
Time-sensitive	Develop indicators that do not add a large extra time burden to the women from whom data is collected.

USAID FROM THE AMERICAN PEOPLE

Are your project indicators doing this already?

INGENAES Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

Some tips and guidance for creating gender-sensitive indicators

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

1. Choose the appropriate unit of analysis

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

2. Indicate that individual (or people) -level indicators will be sex-disaggregated

Aim also to disaggregate other indicators by age, caste, ethnicity, and other variables.

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

3. Collect numbers and narrative

Use a mixture of quantitative and qualitative indicators

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

4. Look for opportunities to disaggregate by sex

- Number of improved technologies adopted
- Volume of sales
- Increase in crop productivity

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

FEED THE FUTURE
The U.S. Government's Global Hunger & Food Security Initiative

5. Establish realistic targets

- ✓Don't be risk-averse and be too cautious
- ✓Don't be overly ambitious
- ✓Look for the "just right"

USAID
FROM THE AMERICAN PEOPLE

INGENAES
Integrating Gender and Nutrition within Agricultural Extension Services

Gender and technology indicators should measure change in:

- Productivity
- Dietary diversity
- Energy Expenditure
- Time
- Income
- Assets

Activity: Indicator Identification

1. Each group will identify 2 – 3 indicators related to one of the following analytical areas:
   - Food availability, quality, and safety
   - Time and labor
   - Income and assets

2. At least one indicator should be qualitative.

Activity: Indicator Identification

Purpose	To demonstrate understanding of the gender-smart indicators.
Format	Small groups
Timing	20 minutes
Instructions	1. Divide participants into small groups. 2. Each group will identify 2 – 3 indicators related to one of the following analytical areas: a. Time and labor b. Food availability, access, quality, and safety c. Income and Assets 3. At least one indicator should be qualitative.

Session: Questionnaire Review

Objectives

- Understand the importance of data collection and analysis for understanding gender roles and relations
- Understand the intent of questions in the interview guide
- Revise and adapt interview guides

Duration	2 hours
Format	Small group activity and discussion
Equipment and supplies	Computer and projector Select two different images Two flipcharts with markers Handout: Interview guides[4]

Note: The Facilitator can design alternative strategies for reviewing the questions than described in the activity below. The main purpose of the exercise is to ensure that participants understand the intent of each question and are able to make the connection between the questions and the GDF and the three areas of inquiry. This is important, because the GDF and the three areas of inquiry structure the data analysis.

Activity: What you see is what you get?

Purpose	To reflect upon challenges related to data collection and analysis
Format	Small groups
Timing	45 minutes

Instructions

1. Divide the participants into two groups. Have each group select an Artist. The flipcharts should be positioned so that when the Artists stand in front of them their backs are to the screen and they cannot see what's on it. The rest of the group should stand facing the screen, but on the other side of the flipchart, so that they cannot see what the Artist is drawing.
2. There will be two different images on the screen. Each group will be assigned to draw different images. Each group will need to describe the picture that appears on the screen. The Artist will draw what he/she hears. The Facilitator will review the rules below making sure that everyone is clear about what they can and cannot do. Ask the participants to repeat the rules.
    a) Rule #1: The Artist is only allowed to draw and is not allowed to speak.
    b) Rule #2: The Artist cannot turn around and look at the screen.
    c) Rule #3: The rest of the group cannot look at what the Artist is drawing.

[4] The interview guides used here are taken from Rubin, D., C. Nordehn, C. Manfre, and K. Cook. Forthcoming. Assessing whether agricultural technologies are gender-responsive and/or nutrition-sensitive: A guide. Washington, DC: USAID.

3. The Artist and his/her group will have five (5) minutes to describe and draw what they see.
4. When the time is up, ask the Artists and the group the questions below. The Facilitator can ask the questions first and then have the participants look at the picture or have everyone come and look at the pictures right away.

   a) What was difficult about drawing (or describing) the picture?
   b) What do you notice about the drawings?

   The Artist may have difficulty drawing objects to scale or correctly positioning them in relation to other objects in the painting. You may select one image which is more abstract than the other making one of the pictures more difficult to draw than the other.

Activity: Understanding the gender dimensions of questions

Purpose

To understand how each question in the interview guide relates to the gender dimensions framework and the three areas of inquiry.

Format

Small group

Timing

15 minutes in small group activity (30 minutes report out for each questionnaire)

Instructions

1. Divide into four groups. Distribute the Handout: Interview Guides
2. For each question, two groups will identify how each question relates to one of the dimensions of the Gender Dimensions Framework (GDF). The other two groups will identify how each question relates to the three areas of inquiry. You may choose to assign each group a different questionnaire in the guide or have each group work on the same questionnaire.
3. During the report out, review most of the questions in each of the questionnaires. If the groups were divided in a way that each group reviewed only one questionnaire, it is important to dedicate the time to review all of the questions in plenary. This is to ensure that all participants become familiar with the questionnaires.

Session: Collecting data about gender relations in technology design, use, and dissemination

Objectives
To practice data collection for a gender and agricultural technology assessment

Duration	Depends on the number of actors to be interviewed. Schedule 1 hour for individual interviews and between 90 minutes and 2 ours for group interviews.
Format	Interviews with technology developers
Equipment and supplies	Handout: Interview guides

Notes: The design of this activity will depend on a number of variables. Ideally interviews can be scheduled where the actors live or work. This means scheduling sufficient time to travel to the interview site and conduct the interview. Interviewees can be brought into the workshop but the experience is enriched, and the participants also enjoy, the opportunity to leave the classroom setting and travel to the field. Participants need to be organized into groups prior to traveling to the field. Each group needs 10 -15 minutes to organize itself. Groups need to identify who will be asking questions, who will be the note taker, and other logistics.

Note: This session is only used in the five-day and nine-day workshops, because it requires time for fieldwork. The nine-day workshop allows participants to interview more actors increasing the amount to time spent on this session.

Session: Analyzing the gender and nutrition dimensions of a technologies

Objective
To conduct a gender analysis using the Gender Dimensions Framework and three areas of inquiry.

Duration	Depends on the amount of data collected.
Format	Small group activity
Equipment and supplies	Computers for small groups Flip chart paper
Instructions	1. Divide participants into small groups. Participants should be divided into small groups based on the their targeted technologies. The targeted technologies are decided prior to the Session: Collecting data about gender relations in technology design, use, and dissemination. 2. Following the steps in Part 2: Apply of the Toolkit participants will develop a technology profile. 3. Presentation of the preliminary analysis

Note: This session can be used during the five and nine-day workshops who are analyzing data collected from the fieldwork during the Session: Collecting data about gender relations in technology design, use, and dissemination.

Session: Research Planning

Objective
To develop a research plan for analyzing the gender dimensions of a technology disseminated by an individuals' institution or project.

Duration	90 minutes
Format	Individual or small group activity
Equipment and supplies	Computers for small groups Flip chat paper
Instructions	1. Participants should identify a technology disseminated by their institution or project. Participants may work individually or in a small group if individuals select the same focus technology. 2. Describe the design and purpose of the technology. 3. Identify the assumed benefits of the technology for men 4. Identify the assumed benefits of the technology for women 5. Design a plan to test these assumptions including a description of the activities, how do implement those activities, the duration of the activities, and the expected results.

Note: This session is geared toward development practitioners working with institutions or projects to design or disseminate technologies. It requires some prior knowledge of the selected technology, but it does not require fieldwork. This session is designed to be used during the five-day workshop, but it could also be used in the two-day or nine-day.

Session: Action Planning

Purpose	Develop an action plan for applying knowledge and skills learned during the workshop to individuals' institutions and projects
Duration	30 minutes
Format	Individual
Equipment and supplies	Computers
Instructions	1. Participants outline concrete actions they will take to apply knowledge and skills from the workshop to better address gender issues in their institutions and projects. This action plan can include a) the activity b) how they will implement the activity c) the duration and deadline for the activity and d) the expected result. 2. Presentation of Action Plans

Note: This session is geared toward development practitioners. This session is designed to be used during the two-day workshop, but it could also be used in the five-day or nine-day workshop.

Annex A: Sample Agendas

You will find sample agendas for the two-day, five-day, and nine-day workshops. In designing your workshop, you may wish to add other sessions or activities to the workshop.

Two Day Workshop	
Day 1	
Time	Topics
9:00 – 9:45	**Welcome and Introduction**
9:45 – 11:05	**Purpose and Role of Technologies in Agricultural Development** ***Small group work***
Break (15 minutes)	
11:20 – 12:05	**Gender Concepts and Gender Issues in Agricultural Development**
12:05 – 1:00	**Agricultural Value Chains, Technology Design, Use, and Dissemination, and Extension & Advisory Services**
Lunch (1 hour)	
2:00 – 3:30	**Introduction to Gender Analysis and the Gender Dimensions Framework**
Break	
3:45 – 5:00	**Gender-based constraints**
Day 2	
9:00 – 9:30	**What is a technology assessment?**
9:30 – 10:45	**Time and Labor**
Break	
11:00 – 12:00	**Food Availability, Safety, and Quality**
Lunch (1 hour)	
1:00 – 1:45	**Gender Issues in Interviews**
1:45 – 3:30	**Income and Assets**
3:30 – 4:45	**Presentation of Technologies**
4:45 – 5:30	**Wrap up**

Five Day Workshop	
Day 1	
Time	Topics
9:00 – 10:00	**Welcome and Introduction**
10:00 – 10:45	**Role of Technologies in Agricultural Development**
Break (15 minutes)	
11:00 – 11:45	**Key concepts**
11:45 – 1:00	**Agricultural Value Chains, Technology Design, Use, and Dissemination, and Extension & Advisory Services**
Lunch (1 hour)	
2:00 – 3:00	**Gender and Nutrition Issues of Agricultural Technology Design, Use, and Dissemination**
3:00 – 3:45	**Gender Dimensions Framework**
Break (15 minutes)	
4:00 – 5:00	**Gender Dimensions Framework continued**
Day 2	
Time	Topics
9:00 – 9:45	**Introduction of technology profile**
9:45 – 10:45	**Time and Labor**
Break (15 minutes)	
11:00 – 11:45	**Facilitation techniques: Part 1**
11:45 – 1:00	**Food Availability, Quality, and Safety**
Lunch (1 hour)	
2:00 – 2:45	**Facilitation techniques: Part 2**
2:45 – 4:00	**Income and Assets**
Break (15 minutes)	
Day 3	

Time	Topics
9:00 – 9:45	**What you see is what you get?**
9:45 – 11:00	**Questionnaire Review**
Break (15 minutes)	
11:15 – 12:00	**Continuation of Questionnaire Review**
12:00 – 1:00	**Introduction of a technology profile**
Lunch (1 hour)	
2:00 – 4:00	**Interviews with technology developers**
Break (15 minutes)	
4:15 – 5:00	**What we do know now that we didn't know before?**
Day 4	
9:00 – 2:00	**Interviews with farmers (Including Lunch)**
2:00 – 3:30	**What we do know now that we didn't know before?**
Break (15 minutes)	
3:45 – 5:00	**Analyzing the gender and nutrition dimensions of a technology**
Day 5	

Time	Topics
9:00 – 9:45	**Continue work on technology profiles**
9:45 – 10:30	**Presentations and Commitments**
Break (15 minutes)	
10:45 – 11:30	**Presentations and Commitments**
11:30 – 12:00	**Wrap up and concluding remarks**
Lunch (1 hour)	

Nine Day Workshop	
Day 1	
Time	Topics
9:00 – 9:45	**Welcome and Introduction**
9:45 – 10:45	**Purpose and Role of Technologies in Agricultural Development**
10:45 – 11:05	**Gender Concepts and Gender Issues in Agricultural Development**
Break (15 minutes)	
11:20 – 12:05	**Gender Concepts and Gender Issues in Agricultural Development (continued)**
12:00 – 1:00	**Agricultural Value Chains, Technology Design, Use, and Dissemination, and Extension & Advisory Services**
Lunch (1 hour)	
2:00 – 3:15	**Introduction to Gender Analysis and the Gender Dimensions Framework**
3:15 – 4:00	**Gender-based constraints**
Day 2	
8:30 – 10:00	**What is a technology assessment?**
Break	
10:15 – 11:30	**Time and Labor**
11:30 – 12:30	**Food Availability, Safety, and Quality**
Lunch (1 hour)	
1:30 – 2:30	**Facilitation techniques**
2:30 – 4:00	**Income and Assets**
Day 3	
8:30 – 9:15	**What you see is what you get?**
9:15 – 9:45	**Introduction to targeted technologies**
9:45 – 11:00	**Questionnaire Review**
Break (15 minutes)	

11:15 – 12:00	**Continuation of Questionnaire Review**
Lunch (1 hour)	
1:00 – 2:00	**Interviews with technology developers**
2:00 – 2:30	**Debrief on interviews**
Break (15 minutes)	
2:45 – 4:00	**What do we know now that we didn't know before?**

Days 4 – 7: Fieldwork

Depending on trainers, resources, and participants the fieldwork can be conducted in multiple groups each focusing on one technology. The fieldwork is conducted during the day and the data processing and analysis occurs in the evenings using the Data Collection and Processing Plan described in Part 2.

Day 8	
9:00 – 12:00	**Team Exchange**
Lunch	
1:00 – 3:00	**Presentation Prep**
Evening	**Begin to draft Technology Profiles**
Day 9	
Morning	**Technology Assessment Presentations**

Annex B: Pre- and Post-tests for Addressing Gender Issues in Technology Design, Use, and Dissemination Workshop

Pre-test

The questions below are each associated with a learning objective of the program. The test includes scored and unscored questions. The unscored questions are information gathering questions to understand the participant's level of knowledge and understanding of the topic. When using this pre-test, the questions should be inserted into a separate document. Participants should each be given a number and asked not to put their name on the test. The number should be used again for the post-test so that answers and improvement can be compared from before and after the workshop. The last column explains how to review and score the answers for each question.

<table>
<tr><th>Questions</th><th>Related Learning Objective</th><th>Scoring (10 points total)</th></tr>
<tr><td>2. Read the following statement(s) and circle whether they are true or false:

Technology adoption is a social process.
True or False
Improving women's land ownership is the most important strategy for closing the gender gap in agricultural productivity.
True or False
Men farmers are more inclined to adopt technologies than women farmers.
True or False</td><td>1. Understand key issues related to gender, extension and advisory services, and agricultural technologies</td><td>1 point for each correct answer (3 points total)</td></tr>
<tr><td>3. Which of the following is NOT a strategy for reducing the gender gap in agricultural productivity?

a) Increasing women's access to extension and advisory services

b) Improving men's knowledge of nutrition

c) Ensuring women are able to take advantage of agricultural credit opportunities

d) Adapting technologies to meet women's needs and preferences

e) All of the above

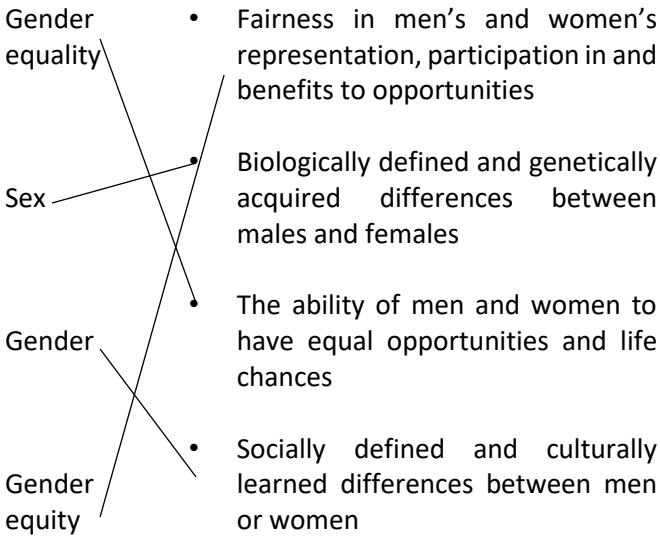
f) None of the above</td><td>1. Understand key issues related to gender, extension and advisory services, and agricultural technologies</td><td>1 point</td></tr>
<tr><td>4. Read the following statements and indicate whether they refer to "sex" or "gender." Mark an X in the appropriate column.

<table><tr><th>Statements</th><th>Sex</th><th>Gender</th></tr><tr><td>a. Women give birth to children, men do not.</td><td>X</td><td></td></tr></table></td><td>1. Understand key issues related to gender, extension and advisory services, and</td><td>1 point for every correct answer (4 points total)</td></tr>
</table>

b. Men are more responsible for generating income for the household than woman.		X	agricultural technologies	
c. Women are better at negotiating prices than men.		X		
d. Men's voices change with puberty.	X			
4. Name three challenges women face in acquiring agricultural technologies.			2. Understand principles of integrating gender analysis into technology design, use, and dissemination	Unscored
5. Name three challenges men face in acquiring agricultural technologies.			2. Understand principles of integrating gender analysis into technology design, use, and dissemination	Unscored
6. Read the following statement and circle whether it is true or false: Disaggregating indicators by the sex of the head of the household is appropriate for understanding gender differences. True or **False**			3. Be able to conduct a preliminary gender analysis of agricultural technologies	1 point
7. Mary Smith is an engineer at Agownia Agricultural and Mechanical University and is developing a mill to be introduced to women's groups in three communities. She has successfully engineered a mill that will reduce the time required to mill by 50%. Six months after the mills were introduced to the communities, Dr. Smith conducted a field visit and found that the mills had not been used at all. What are the possible reasons that the technology was not adopted? a. Women were unable to pay for the cost of use. b. Women found it physically difficult to operate. c. Women complained that the milled grain was too coarse. d. Men were taught to operate and maintain the mill. e. None of the above. **f. All of the above.**			3. Be able to conduct a preliminary gender analysis of agricultural technologies	1 point

Post-test

Questions	Related Learning Objective	Scoring (10 points total)
1. Name two (2) ways extension and advisory services support the design and dissemination of agricultural technologies. a. b.	1. Understand key issues related to gender, extension and advisory services, and agricultural technologies	1 point (1/2 point each)
2. Name the four (4) dimensions of the Gender Dimensions Framework: **a. Access to Assets** **b. Practices and Participation** **c. Beliefs and Perceptions** **d. Laws, Policies, and Institutions** 3. Name the three (3) analytical areas that are part of the technology assessment: **a. Food availability, quality, and safety** **b. Time and Labor** c. **Income and Assets**	2. Understand principles of integrating gender analysis into technology design, use, and dissemination	1 point (.25 point for each correct dimension)
4. In the country of Agownia, women are heavily involved in dairy activities. Relative to men, women have less access to veterinary services and information and this has impacts on the health and productivity of the cows for which they care. These services are often available at milk collection points. Women also have greater difficulty selling milk because milk collection points are often too far from their homes. This is likely because social norms limit both their mobility and time. What information in the paragraph above is about access to assets? What information in the paragraph above is about practices and participation?	3. Be able to conduct a preliminary gender analysis of agricultural technologies	1 point (1/2 point for each answer)

5. Read the following statement and circle whether it is true or false: *Disaggregating indicators by the sex of the head of the household is appropriate for understanding gender differences.* True or **False**	3. Be able to conduct a preliminary gender analysis of agricultural technologies	1 point
6. Draw a line from the concept to its corresponding definition:  	1. Understand key issues related to gender, extension and advisory services, and agricultural technologies	1 point (.25 point for each correct answer)
7. Mary Smith is an engineer at Agownia Agricultural and Mechanical University and is developing a mill to be introduced to women's groups in three communities. She has successfully engineered a mill that will reduce the time required to mill by 50%. Six months after the mills were introduced to the communities, Dr. Smith conducted a field visit and found that the mills had not been used at all. Circle all the possible reasons for why the technology was not adopted. **i. Women were unable to pay for the cost of use.** **ii. Women found it physically difficult to operate.** **iii. Women complained that the milled grain was too coarse.** **iv. Men were taught to operate and maintain the mill.** v. None of the above.	3. Be able to conduct a preliminary gender analysis of agricultural technologies	1 point (.25 point for each correct answer)

8. Draw a line from statement about why women did not adopt the mill in Agownia in the left column, to the corresponding area of inquiry in the right column. • Women are unable to pay for the cost of use. • Women complained that the milled grain was too coarse and too soft when cooked. • Women found it physically difficult to operate. • Laws, policies, and institutions • Time and Labor • Income and Assets • Food availability, quality, and safety	3. Be able to conduct a preliminary gender analysis of agricultural technologies	3 points (1 for each correct associate)

Annex C: Handouts

Cookstove Handout:

Technology: EcoZoom Rocket Stove

The Ecozoom Rocket stove is a lightweight stove that uses wood fuel and includes space to cook one pot at a time. This stove is designed to emit very little smoke polluting the air. It is also designed to use the wood fuel efficiently by reducing heat loss during the cooking process.

How does it reduce smoke emitted? The user pushes the wood through a small chamber controlling the amount of wood that is burning at one time. In alternative stoves all of the wood under the pot might be burning at the same time and emit more smoke. The stove includes an insulated combustion chamber that keeps the fire burning at a hot enough temperature to burn most of the wood making contact with the flame, which also reduces smoke (Dana 2009: 7).

How does it make the fuel burning process more efficient? The walls around the chimney are designed to increase heat transfer which decreases heat loss They are made from lightweight materials that do not absorb very much heat, thus conserving the heat produced from the stove for cooking (Dana 2009: 7). Additionally, the interior is made of materials (clay, cement, and organic materials) which will not degrade quickly over time.[5]

It is estimated that this stove can reduce toxic smoke emissions by up to 70 percent and fuel usage up to 60 percent. Per user, it's estimated that 30 to 40 trees and 12 to 15 tons of carbon dioxide are saved.[6]

EcoZoom is working in six countries in sub-Saharan African, Asia, and Latin America where the EcoZoom Rocket stoves are disseminated and sold in rural villages. Families that are below a particular income level in each country are targeted and given the stoves. The stove can be purchased by families in higher income brackets.

[5] http://www.hedon.info/IncreasingFuelEfficiencyAndReducingHarmfulEmissionsInTraditionalCookingStove

[6] https://ecozoomstove.com/pages/international-work

Handout: Time and Labor - Scenarios for Data Analysis Exercise[7]

Scenario 1

Rice is the most important crop of the Mekong Delta farmers in southern Vietnam. The Mekong produces half of the total national rice production. Vietnam has become a major rice exporter with the introduction of high-yielding and short-duration varieties, machinery for land preparation and threshing as well as expansion of irrigation schemes. The plastic row/drum seeder has been promoted in recent years in the region to reduce the seed rate and production costs. The row seeder reduces the seed rate from 200 kg to 80-120 kg/ha. In the region, women and men work together in most rice operations, including land preparation, irrigation, fertilizer application, pesticide spraying and paddy drying. However, women exclusively do gap-filling, hand-weeding and harvesting.

Chi, her husband An and their two sons ages 10 and 12 live a village in the Mekong Delta. They are landless. Recently, many farmers in the village have been using the row seeder for their rice production. Before the introduction of row seeders, Chi worked as a hired laborer gap-filling and hand-weeding. After the introduction of the row seeder the rice plants are growing better and there are fewer gaps to be filled or replanted. Farmers are also using machinery to level the land, which suppresses the weeds and therefore less hand-weeding is needed. Chi is no longer able to find work as a hired laborer. She now goes to villages 100 km from her house to work as a hired laborer weeding fruit trees. She also does the majority of the household work and childcare. Recently, An has found new employment in a factory near Can Tho. Chi has considered working in a factory, but they are too far away from her home and children.

Scenario 2

Rice is the most important crop of the Mekong Delta farmers in southern Vietnam. The Mekong produces half of the total national rice production. Vietnam has become a major rice exporter with the introduction of high-yielding and short-duration varieties, machinery for land preparation and threshing as well as expansion of irrigation schemes. The plastic row/drum seeder has been promoted in recent years in the region to reduce the seed rate and production costs. The row seeder reduces the seed rate from 200 kg to 80-120 kg/ha. In the region, women and men work together in most rice operations, including land preparation, irrigation, fertilizer application, pesticide spraying and paddy drying. However, women exclusively do gap-filling, hand-weeding and harvesting.

In a poor farming household, Kim and her husband Minh produce rice on 0.4 ha. They have two girls and one boy who are under five years old. In a village in the Mekong Delta region many farmers are applying the row seeder technology which reduces weeds and dead plants. However, they have not adopted the new row seeder technology. Both Kim and Minh supplement their income as hired laborers. Kim used to earn .94 million dong from gap-filling and hand weeding jobs per year. Now, there are fewer opportunities to earn income gap-filling and hand weeding because the rice plants grow better and there are fewer gaps to be filled or to be replanted. Now she earns less money as a hired laborer harvesting rice in another district 70 km away from her village. She also collects field snails from rice plants for income. Both Minh

[7] Adapted from Field Survey data from farmers in Vietnam collected by Paris and Chi. Referenced in Impact of Row Seeder Technology on Women Labor: A Case Study in the Mekong Delta, Vietnam (Paris and Chi 2005).

and Kim fish. The fish is primarily used for home consumption. When Kim and Minh are working Kim sends her children to her mother. Minh wants to raise animals at home but does not have sufficient capital.

Scenario 3

Rice is the most important crop of the Mekong Delta farmers in southern Vietnam. The Mekong produces half of the total national rice production. Vietnam has become a major rice exporter with the introduction of high-yielding and short-duration varieties, machinery for land preparation and threshing as well as expansion of irrigation schemes. The plastic row/drum seeder has been promoted in recent years in the region to reduce the seed rate and production costs. The row seeder reduces the seed rate from 200 kg to 80-120 kg/ha. In the region, women and men work together in most rice operations, including land preparation, irrigation, fertilizer application, pesticide spraying and paddy drying. However, women exclusively do gap-filling, hand-weeding and harvesting.

Thi and her husband Lan cultivate rice on their 1.5 ha of land in the Mekong Delta region. Thi and Lan are using the row seeder technology for their rice production. Lan is the only one in the household who operates the row seeder. Row seeders ensure uniformity in seed distribution in rows and therefore lead to uniform rice populations, which makes it easier to control weeds. Before using the row seeder, Thi did hand-weeding in the rice fields twice a season. It took her eight days each time for 1.3 hectares. Now she only has to do it once for six days. After the introduction of the row seeder the rice plants are growing better and there are fewer gaps to be filled or replanted. Now Thi only needs to use 15 days for gap-filling. Before it took twice as much time. Thi now spends more time cooking, taking care of her children and watching television. She also socializes and attends meetings in her village. She also feels healthier and has less back pain from fieldwork. The introduction of the row seeder has reduced overall rice production costs. Lan spends the money saved from reduced production costs to hire labor to prepare the land.

Couple #1

Amrita and Ahmed are a couple with high levels of trust and cooperate around most decisions. They share the details of how much they earned from rice or any surplus of vegetables. They will argue about their priorities but when Amrita and Ahmed take the time to explain their priorities they often come to a solution that works for both of them.

Couple #2

There is very unequal power between husband and wife, Mostafa and Rokeya. Mostafa always decides how the income from rice is going to be used even though Rokeya contributes significantly to post-harvesting activities. When Mostafa and Rokeya come together to discuss the rice income, Mostafa often dominates the conversation. Rokeya tries to explain her needs but gets frustrated and eventually stops talking altogether.

Couple #3

Mahmuda and Shamim have a difficult time coming to agreement about how to spend their income. They do not trust each other and do not reveal to each other how much income each of them has earned. Mahmuda earns very little from her vegetables and hides this from Shamim, and he suspects this. Similarly, Mahmuda knows that Shamim does not tell her the truth about how much income was earned from the rice harvest. They will come to an agreement about how to spend their money but both are often unsatisfied by the outcome.

Handout: Case Study

A Case Study in Applying Gender Analysis to Technology Development and Dissemination[8]

DEVELOPING GENDER-EQUITABLE AGRICULTURAL TECHNOLOGIES TO IMPROVE POST-HARVEST PROCESSING

Country background

"Agownia" is a fictitious nation of approximately 64 million people. Classified as a "low-income" country by the World Bank, it has a primarily semi-tropical climate and adequate water sources as well as sufficient rainfall to support a productive agricultural sector. Cereal production is particularly important (maize and wheat). Agriculture provides over two-thirds of the country's gross domestic product (GDP), and over half of that is from smallholder production. However, agricultural productivity is hampered by a limited supply of key inputs, significant losses from pests and disease, weak producer and marketing associations, and a poor transport infrastructure.

The government of Agownia has recently passed several policies to strengthen the economic and social status of women. For example, a new policy establishes new goals for girls' participation in secondary schools, since literacy is low: only 39% of women 15 and over are literate, compared to 62% of men. In agriculture, the government has announced a program to promote the adoption of labor-saving technologies that can ease the types of work that women typically perform.

Gender Relations in Smallholder Agriculture

Gender relations in Agownia are neither extremely unequal nor completely egalitarian. Most people are expected to marry and live on the small farms that supply their food and livelihoods. Although the law allows for women to own, purchase, and inherit land, title to most agricultural land is still held in men's names who are perceived to be the head of the household. It is customary for women to defer to men on a range of issues including the sale of products. Smallholder farms draw primarily on household labor. Maize is a staple crop, produced for home consumption and the market. Both men and women work in land preparation: men cut down trees or remove stumps and plow the fields with animal plows. Women clear brush, crop residues, and stones from the fields. Women do the sowing, transplanting, and weeding of maize. Both men and women help in the harvesting if it is done manually. Men harvest if they have access to machinery and women clean the fields after the machines have finished. Family members provide the majority of labor required on smallholder farms, but landless women also work as agricultural laborers to perform these tasks in their own and neighboring communities. Customary laws and social attitudes limit women's opportunities to work outside the home after marriage. In recent years men have migrated to nearby towns as casual laborers or in salaried positions. After the maize is milled, any surplus not needed for home consumption is sold in the market by men. Overall, as the table below reveals, women have fewer income generating opportunities than men:

[8] The methodology, case study, and worksheets have been developed by C. Manfre, C. Nordehn, K. Cook, and D. Rubin from Cultural Practice, LLC under the USAID-funded Integrating Gender and Nutrition within Agricultural Extension Advisory Services (INGENAES) project, implemented by University of Illinois at Urbana-Champaign, in partnership with University of California Davis, University of Florida, and Cultural Practice, LLC.

Source of income	Men	Women
Livestock	Cattle	Poultry and goats
Equipment rental	Plows, tractors	No
Grain processing	Only a few large regional processors	Yes – the majority in the community
Casual labor	All aspects of farming, carpentry, transport	Maize: sowing, transplanting, weeding
Migrant labor	Yes	No
Other crop sales	Yes-varies by crop	Yes-varies by crop

Producer Associations

Smallholder farmers receive inputs, market information, and training services through producer associations. Membership criteria varies by association but generally requires title to land or ownership of livestock, and the ability to pay monthly and annual dues. Among married couples in rural Agownia, women and their adult children may sit in on meetings, but each household is allowed only one vote, which is given 90% of the time to the man as head of the household. In some cases the family may be able to name another the person as the registered member. It is commonplace for only the registered member to receive training or other services. Women's participation in producer associations thus varies greatly throughout the country depending on the specific requirements for membership, their interest in the crops targeted, and other issues related to scheduling and location of meetings. A recent survey indicated that across the country they make up only 30% of association members

Processing

Women play a large role in grain processing. In the past, women processed their maize by hand at home. Over the past 10 years, the introduction of small powered maize mills created the opportunity for some women to open their own milling enterprises. Women own and operate community level maize milling enterprises. These include two types of business: a few who still use hand-operated grinders and those who own and operate small powered mills. Fees are charged based on the weight of the produce prior to processing. Both men and women have increasingly used the small-scale women processors to mill their maize so they can spend more time on other income-earning activities like vegetable gardening and livestock rearing. Only very few continue to grind their maize at home. Women business owners are interested in finding an affordable mill that will be more efficient and operate without needing frequent repairs like their current ones but to-date have not found one.

There are also larger mills owned by men in urban areas that are able to process large quantities, but most rural people cannot afford to transport their grains to these sites. Many women also find that the texture of the processed maize makes it too soft when cooked, and prefer the local processing techniques. Women are perceived to be skilled at postharvest handling. It is considered appropriate for women to do this work as they can stay closer to home and the task itself is seen as directly related to cooking. It is thought to be a women's job.

Project Information

The Assisting Processing Technologies (APT) project is designed to improve cereal processing in Agownia. The project's goals are to:

1. Improve the efficiency of grain drying and/or milling for staple cereals, including maize and wheat.

2. Maintain the nutritional quality of cereals through use of post-harvest storage and processing technologies.
3. Increase the use of drying and milling technologies by community members, both men and women.

The activities include: designing a new or modifying existing agricultural processing technologies; disseminating new technologies through farmer associations; providing training for users of the new technologies; and, increasing employment opportunities in agricultural processing.

The project has been operating for 18 months and is piloting a new type of maize mill in a local community. This mill grinds 10 kilograms (kg) of maize in 10 minutes. If ground by hand, only 1 kg of maize can be ground per hour. Other machines can grind 1 kg of maize in 10 minutes. The engineers who designed the mill expected this machine would help women farmers because women would not need to process the maize manually. They state that the machine retains the texture and taste women prefer and the nutritional properties of the maize. No women were consulted in the design or testing of the machine.

The mill is introduced through farmer associations. It is supplied free of charge, but the association pays for its maintenance and repairs. Training is provided to the registered members of the association and a written manual is left with the group to help them address maintenance issues. To cover the costs, the associations charge the equivalent of 1 Agownia dollar to process 1 kg of grain. A machine operator is paid 10% of the total proceeds generated. For example, if the operator processes 100 kgs, he or she would earn 10 Agownia dollars. The association determines the minimum quantity of maize that can be milled with the new machine.

A study of the pilot showed that the machines were not being used by many associations. Having only a small quantity of maize to mill, women farmers do not meet the minimum threshold. Few men were using the mills; they have begun to aggregate their maize and send it to the larger regional mills. As a result, in many associations, the number of users was not sufficient to generate the income needed to maintain the mills, which soon fell into disrepair.

Worksheet 1 (Organizing) : Gender Dimensions Framework

Dimension	Information about men		Information about women	
		Beliefs and perceptions		Beliefs and perceptions
Access to assets				
Practices and participation				
Laws, policies, and institutions				