



Enabling Gender Responsive Food Security Programming:

Focus on Sustainable Agricultural Mechanization

October 12 – 14, 2022

Developed by Maria Jones
Day 2

Logistics

- 9 am – 12 pm
- Ask questions anytime via chat online or in person
- Coffee break at 10:40 am
- Activities
 - In-person groups (5 participants each)
 - Online groups (4 participants each)



Photo credit: Maria Jones

Training Agenda

DAY 1

Session 1: Women's role in agriculture & food security

Session 2: Developing gender-responsive food security programmes

Session 3: Introduction to frameworks for developing gender-responsive innovations

DAY 2

Session 4: Designing mechanization that benefits women and men: Time & labor-saving technologies

Session 5: Gender - sensitive dissemination: Focus on agricultural extension

Session 6: Addressing gender barriers in technology adoption & continued use

DAY 3

Session 7: Understanding impacts of intra-household dynamics in technology adoption and scaling

4.

Designing mechanization that
benefits women and men

Two challenges in Design:

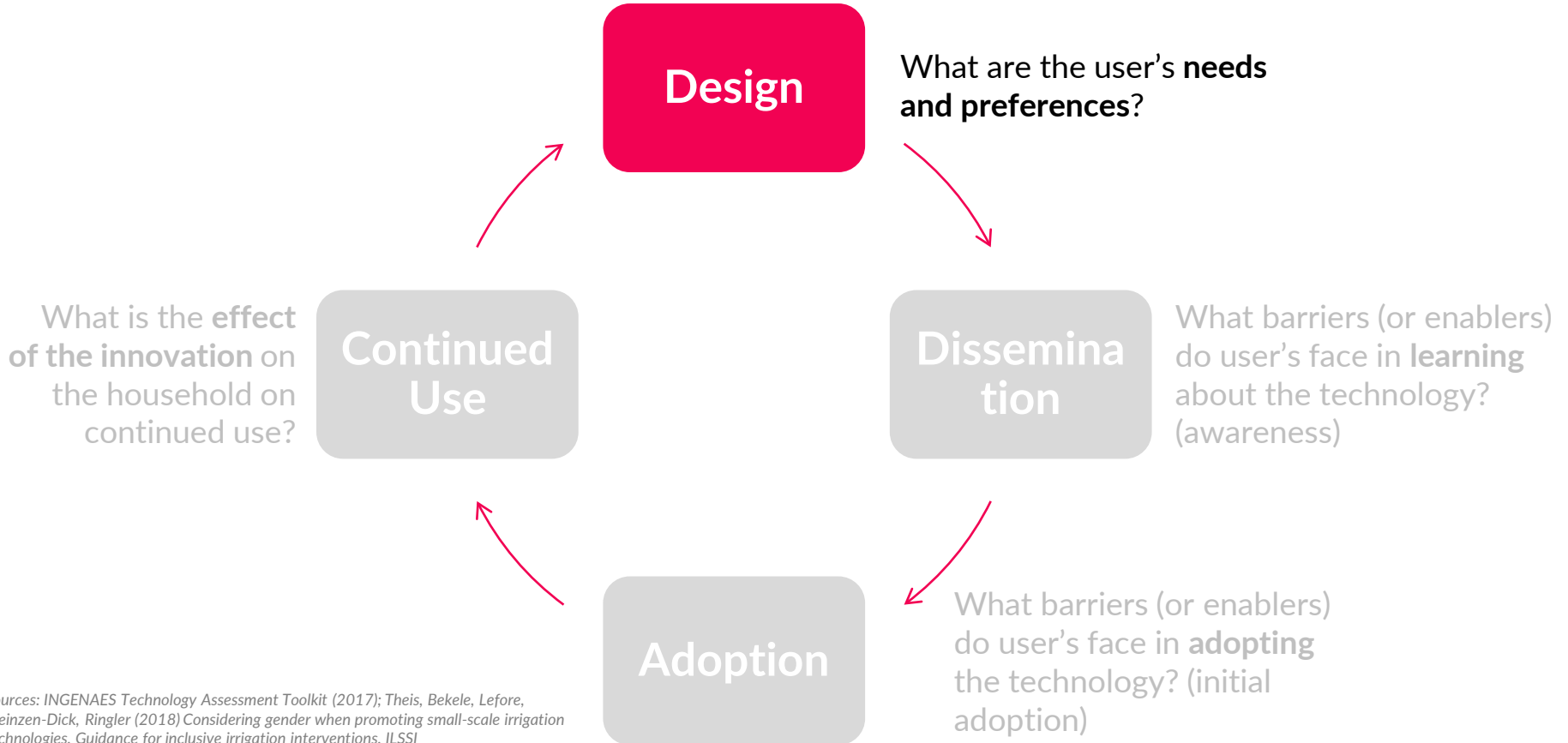


Agricultural innovations/ programs are primarily directed at middle-income male farmers.



Technologies are not designed considering women farmers and low-income farmers' needs and conditions.

Stages of Innovation to Scaling





“We live in a world where technologies are largely built for and by men, and we are systematically ignoring half the population...it is a pervasive but invisible bias with profound impact on women’s lives” C Perez

Design

- Understand that men and women play **different roles** in various agricultural processes
 - Different sets of **needs and priorities** of women and men in terms of mechanization
 - Varies with participation in respective **value chains** or different part of same value chain
- Structural factors such as **access to resources and production inputs** result in differences between men and women using mechanized tools

Gender & Mechanization: What is your strategy?

Gender-focused Technology

- Technology that specifically targets women and addresses their needs, farming roles based on resources accessible to them
- E.g., Mechanized planter to help reduce burden of women in hand planting

Gender-integrated Technology

- Technology that targets both men and women, and are intentionally integrating gendered needs & constraints
- E.g., Mechanized rice transplanter that intentionally includes women in design, dissemination, adoption & scaling efforts

Gender focused technologies – Example

USAID project implemented by MIT Development Lab, Land O' Lakes in Tanzania provided design training to farmers group and encouraged women farmers to design mechanized tools. Women developed palm oil extracting machine, a peanut sheller and a rice thresher.



Photo credit: Giselle Aris

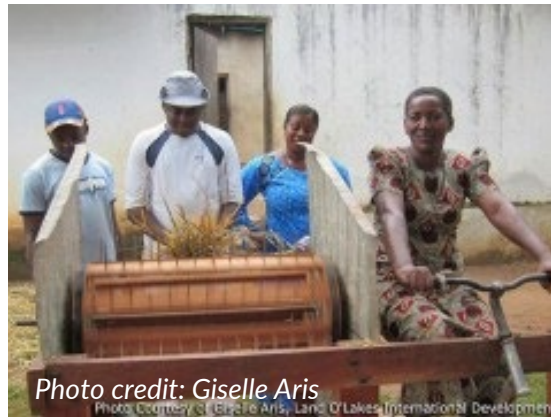


Photo credit: Giselle Aris



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Reducing time & labor burdens

- **Rural women are time & labor constrained:** farm, household, childcare
- This affects how women interact with technologies and how they gain access to them.
- **Gender-responsive mechanization should save women's time and reduce drudgery, freeing up women's time and labor**

Time & labor-saving technology example

- Planting is time and labor intensive and women's responsibility in Burkina Faso
- How are women using the technology?
- How easy or difficult is it to use the planter? Is it easy to understand how to use the planter?
- How are the ergonomics (maneuverability, weight, height, etc.)
- Women used time and labor saved for income generating activities



Photo credit: Maria Jones

Gender-adapted technology - Example

- Green Heron Tools in the US scientifically designed tools – labeled as Hergonomic®
 - Multiple sizes
 - Lightweight & functions to minimize effort needed
 - Handle size
- Women have 40-75% less upper body strength; 5-30% less lower body strength, smaller stature (shorter arms & legs), smaller grip and lower center of gravity and greater flexibility



Gender integrated technology

- What are men and women's preferences regarding the design of the technology? Does it address or further worsen gender barriers?
- Technology characteristics
 - Ergonomics: height, weight of the equipment
 - Ease of use / operation
 - Addresses specific needs & preferences
 - Available or Accessible
 - Affordable
 - Effective

Benefiting without being direct users

- Service providers who offer mechanization services
- Ensure that women can benefit from it
 - Access to service providers
 - Start individual service provision business
 - Women's groups owning machines and offering services to other farmers

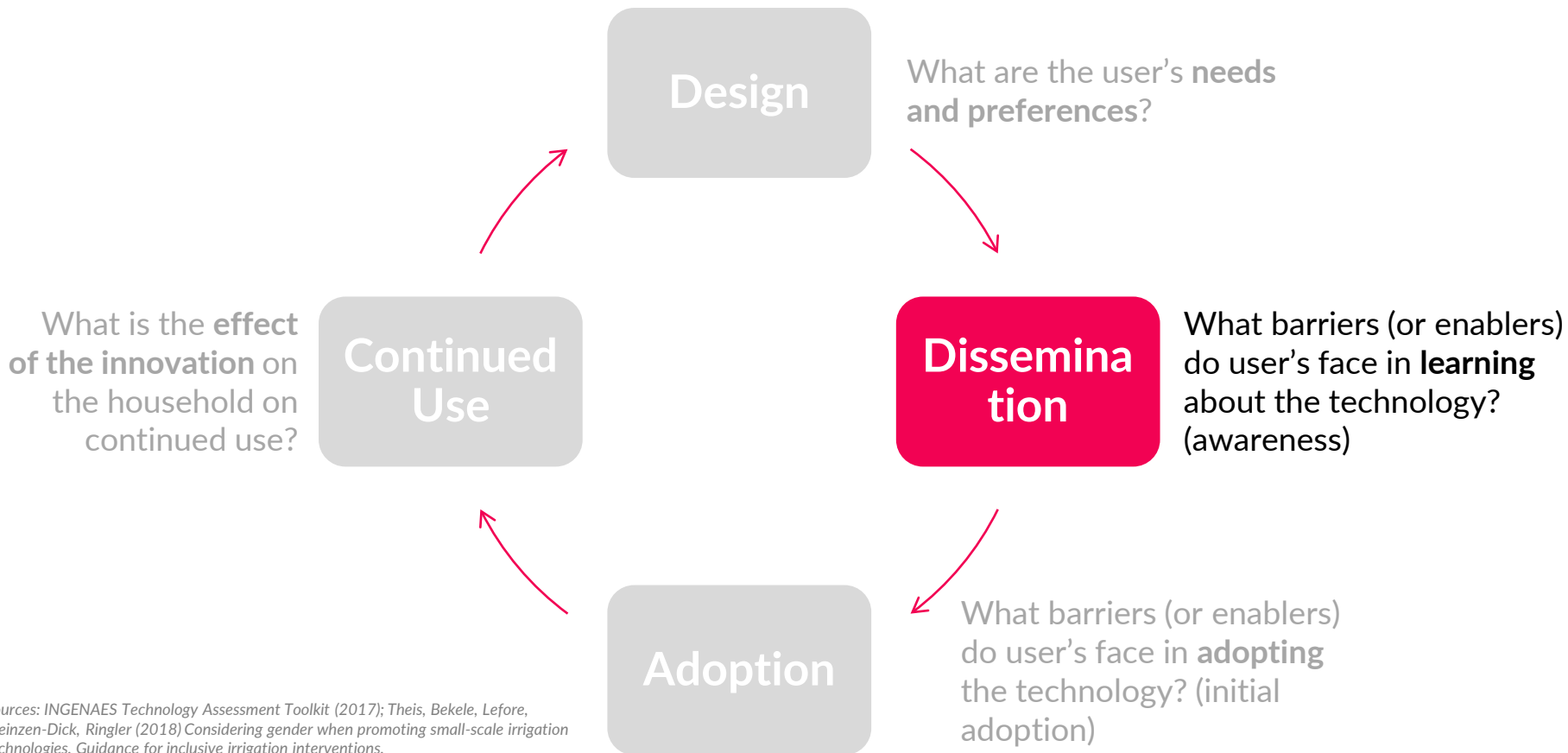


Photo credit: Maria Jones

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Gender-sensitive dissémination:

Stages of Innovation to Scaling



Two challenges in Dissemination



Dissemination of new technology unintentionally excludes women, so women never learn about the technology



Dissemination does not consider women and men's different barriers and enablers in learning about new technologies

Agricultural Extension: Unintentional exclusion

- Extension plays a critical role in technology transfer
- Traditional extension is
 - Male dominated (male officers and leadership)
 - Inherent biases on who receives extension services
- **Delivery structures and services** can hinder women from accessing information
 - Trainings in mixed groups
 - Criteria to attend training
 - Socio-cultural norms



Photo credit: Maria Jones

Women's barriers with traditional extension

- Even when information about technologies is disseminated, information may be less likely to reach women because of:
 - **Content**
 - **Format** - literacy barriers, language barriers
 - **Location** - socio-cultural, cost, accessibility of options, safety)
 - **Timing**
 - **Other responsibilities**
 - **Norms** - permission



Photo credit: Maria Jones

Gender-sensitive dissemination

Reach women & men with information

- Target women with relevant information through various formats
- Female extension workers, female trainers, lecturers
- Farmer groups, women's associations
- Digital methods (if found to be gender equitable)

Gender sensitive training methods

- Gender sensitive training methods (video, participatory)
- Content relevant to women's needs and barriers
- Consider women's needs: time, location, context, literacy
- Address socio-cultural norms. Have single sex groups for training

Gender-sensitive dissemination

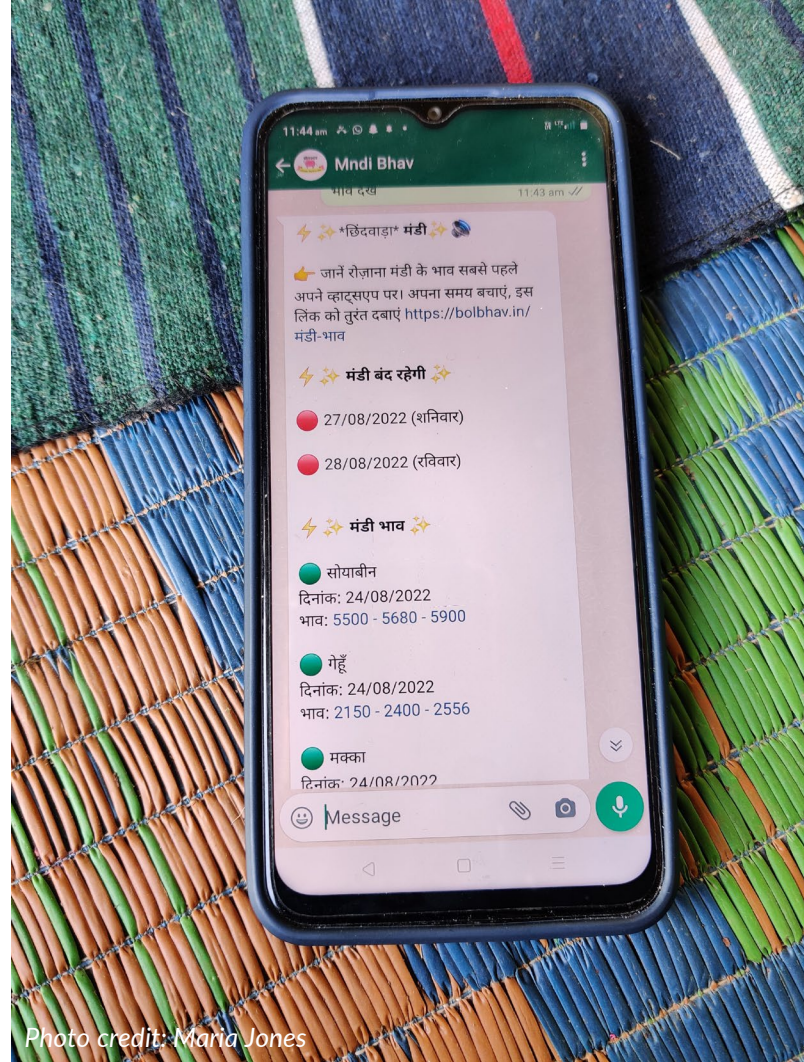
- Women may also trust different information providers, such as health workers or community leaders, more than traditional promoters of technology, such as extension agents.
- In some contexts, women will not feel comfortable participating in mixed gender-activities or their husbands may prohibit them from attending.



Photo credit: Maria Jones

Digital extension

- Both agricultural and market information are increasingly being delivered through digital platforms.
- Women remain 7% less likely than men to own a mobile phone
- Women are 16% less likely to use mobile internet.
- Household phone (children or men have it)
- Digital literacy



Sources: GSMA The Mobile Gender Gap Report 2022; Bryan, Ringler, Lefore (2022) To ease the world food crisis, focus resources on women & girls. Nature

Photo credit: Maria Jones

Example of Digital Green

- Taught by farmers to other farmers
- Use local facilitators
- Use simple low-cost projectors to view videos
- Practices promoted are locally relevant and evidence-based, produced in the regional language
- Videos include local community members
- Short timing to enable participation by farmers
- Follow up by local extension agents



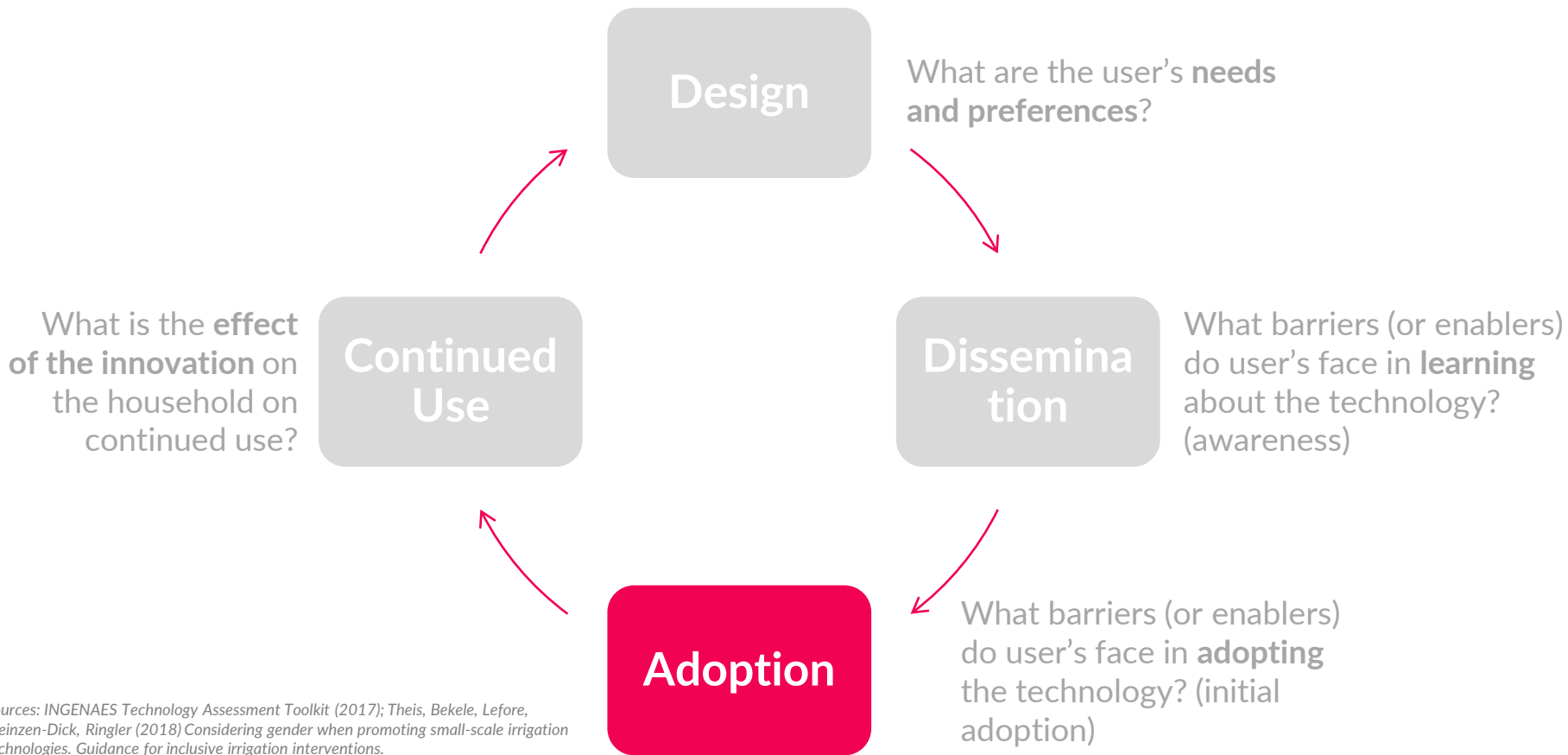
Sources: <https://www.alliancemagazine.org/feature/digital-green-video-based-learning-within-rural-networks/>

Photo credit: Digital Green

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Addressing gender barriers in technology adoption

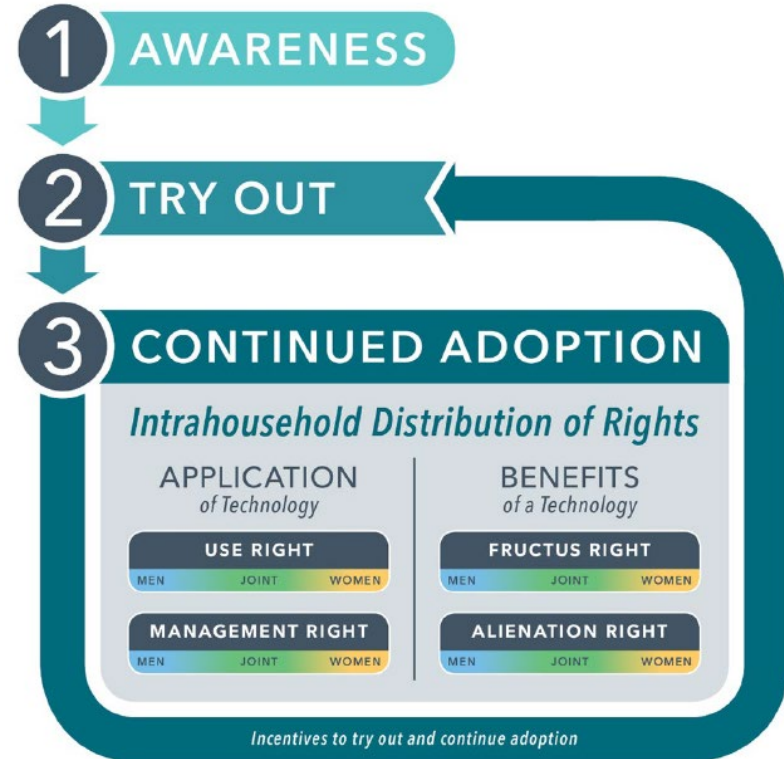
Stages of Innovation to Scaling



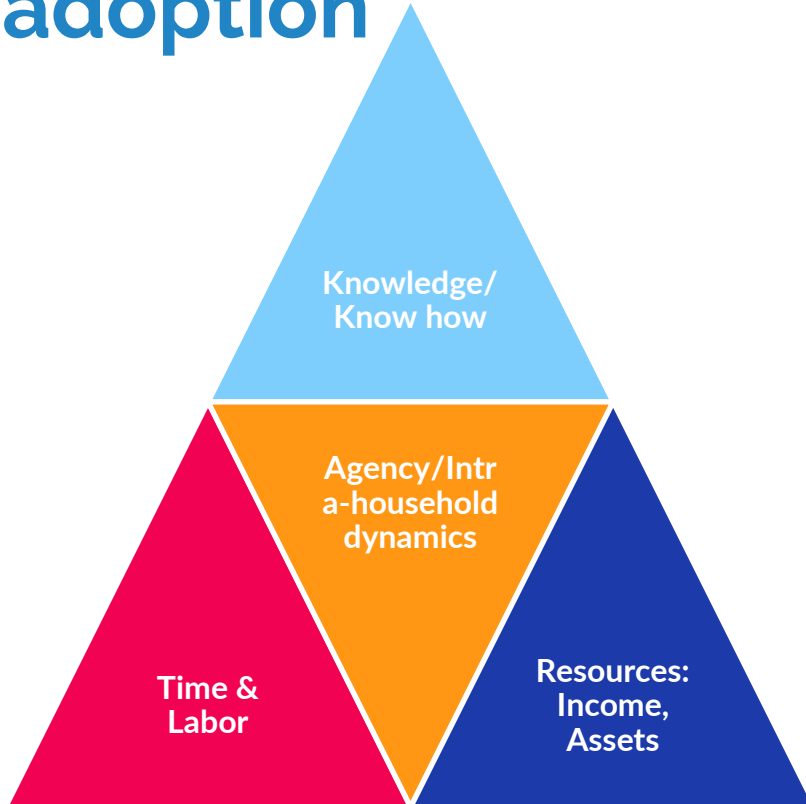
Sources: INGENAES Technology Assessment Toolkit (2017); Theis, Bekele, Lefore, Meinzen-Dick, Ringler (2018) *Considering gender when promoting small-scale irrigation technologies. Guidance for inclusive irrigation interventions.*

Addressing gender barriers in technology adoption

- Both men and women face constraints to adopting new technologies, but constraints are gendered, and women often face additional barriers to adoption.
- Women are aware of the technology, but the technology does not benefit them adequately, OR they do not have the resources or power required to adopt a new technology



Addressing gender barriers in technology adoption



To increase adoption of technologies, important to understand:

- Who does what (time & labor)
- Who decides what (agency/intra-household dynamics)
- Are resources needed accessible? (income, assets)
- Is there access to information (dissemination)

Decision making & impact on household

Women who are female heads of household

- Financial and labor-related constraints to acquiring a new technology
- As the primary decision maker in their household, they can choose to adopt a technology if they are able to overcome such constraints

Women in male-headed households

- May have greater financial resources and access to labor but lack sufficient decision-making power within the household to influence the decision to adopt a certain technology.
- Primary male decision maker may have different preferences from women and undervalue the benefits of adopting a technology for women, such as reduced female labor.

Adoption: Income & Assets

- Men and women often have different levels of access, control and ownership over income and assets.
 - Tangible assets: land, livestock, income, jewelry, equipment
 - Intangible assets: education, networks, group membership, access to credit



Adoption: Income considerations

- **Cost matters:**
 - Most farming households make less than \$2/day and \$ 550/ year or less.
 - Women face a pay gap / income gap
 - Women face difficulties in accessing formal financial products: credits, loans
 - Both face difficulties in accessing subsidies, policies and rebates
- **Income Considerations:**
 - Do men and women have access to the financial services required to be able to invest in the technology?
 - Do they have decision making authority in investing money or accessing credit?
 - Can service provider model or for-hire model be used?
 - How can we improve both men and women's access to subsidies / other government policies to enable adoption of capital-intensive equipment?
 - Models for payment (pay as you go, pay after harvest etc.)

Adoption: Asset considerations

Land and assets

- Legal structures often restrict women's ownership of land – officially or unofficially
- Access to land & land tenure affect decisions to invest in and adopt technologies
- Women's plots are smaller, less fertile and get less attention
- Animals are also assets

Asset considerations

- What assets (land ownership, animals) or resources (credit access) are required to use the technology?
- Who has access to these assets or resources?

Asset consideration – example

- Rapid gender technology assessment to identify gendered barriers.
 - Women and most low-income farmers (male & female) faced barriers with access to draft animal (lack of oxen) for the planter
- Tested the planter efficiency and performance with donkeys
 - Understanding impact of planter technology with women farmers



Photo credit: ASMC Burkina Faso

Adoption - Example

“Consumers are well-aware of the health benefits, through learning on their own or through opinion leaders, so it is ***not a lack of information that prevents adoption.***

The most important factor hindering adoption is the asymmetry in the ***intra-household power.*** Women are more motivated to adopt clean cook stoves than men; clearly, women are the ones who have to suffer the smoke and the short-term irritation and long-term health consequences.

But ***men control the budget,*** and don't see these benefits as much. So when the product is given for free, women adopt the product, but the imposition of even a small price substantially reduces adoption.”

Activity sheet

<https://bit.ly/3TlkQsR>

1. Choose one technology / innovation / mechanization that your group will focus on for today's session
2. Answer questions for each section during the specific activity time slots
3. Purpose of the activity is to reinforce principles learned during the workshop through thoughtful discussion.



Thanks!

Any questions?

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