



CSAM

Centre for Sustainable
Agricultural Mechanization



NIAM

10th Regional Forum on Sustainable Agricultural Mechanization in Asia and the Pacific

Gender Mainstreaming in Sustainable Agricultural Mechanization

28-30 November 2023; Shanghai, China

Gender mainstreaming in sustainable agricultural mechanization

Maria Jones

Asia-Pacific as we know it is changing



Triple threat of Climate Change, Conflict & Pandemic (COVID-19) is affecting food production & supply

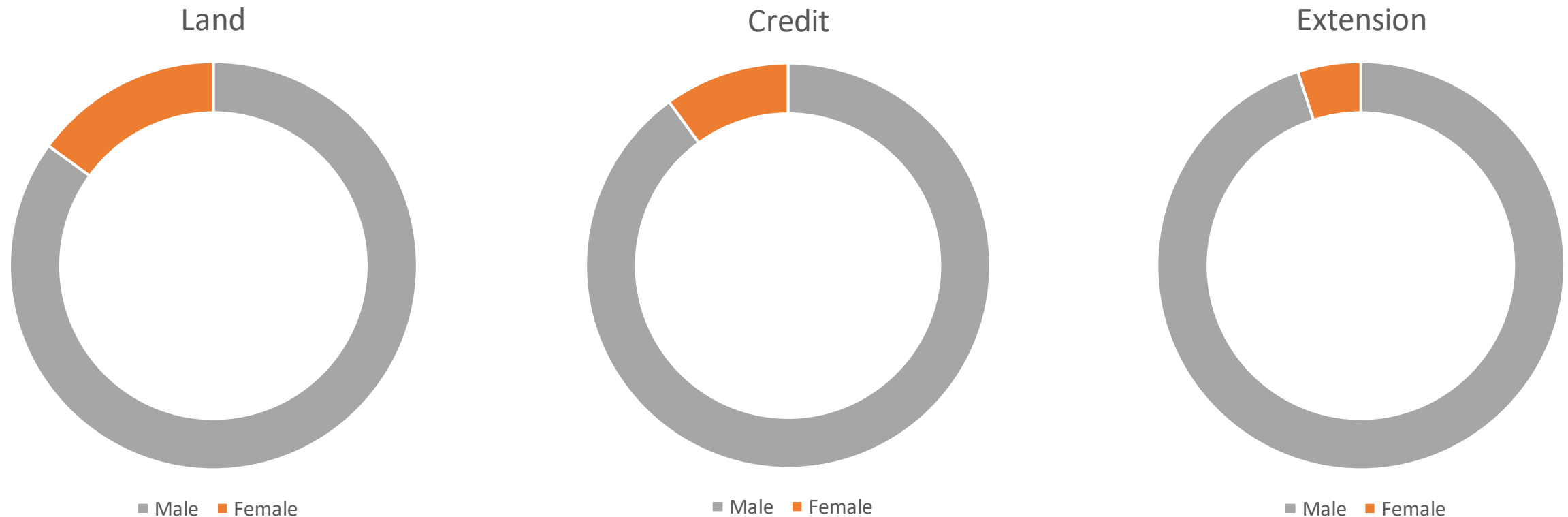
In addition, agriculture is impacted by -

- Outmigration of farm labor from rural to urban areas
- Heightened costs of existing labor
- Increasing costs of food coupled with rural poverty among farmers

- Increasing number of women farmers and agricultural laborers responsible for food production
- Women account for greater than 50% of the agricultural labor force on average in Asia. (FAO 2011, 2023)

Agricultural mechanization is needed for food security, economic & social aspects of sustainability

Women account for 60 – 80% of smallholder farmers globally, yet –



Only 15% of landholders are women, they receive less than 10% of credit and 5% of extension services.

Rural women are the backbone of agricultural economies

Farming:
planting,
weeding,
harvesting



Livestock:
feeding, caring



Postharvest:
drying,
winnowing



Processing:
husking, milling



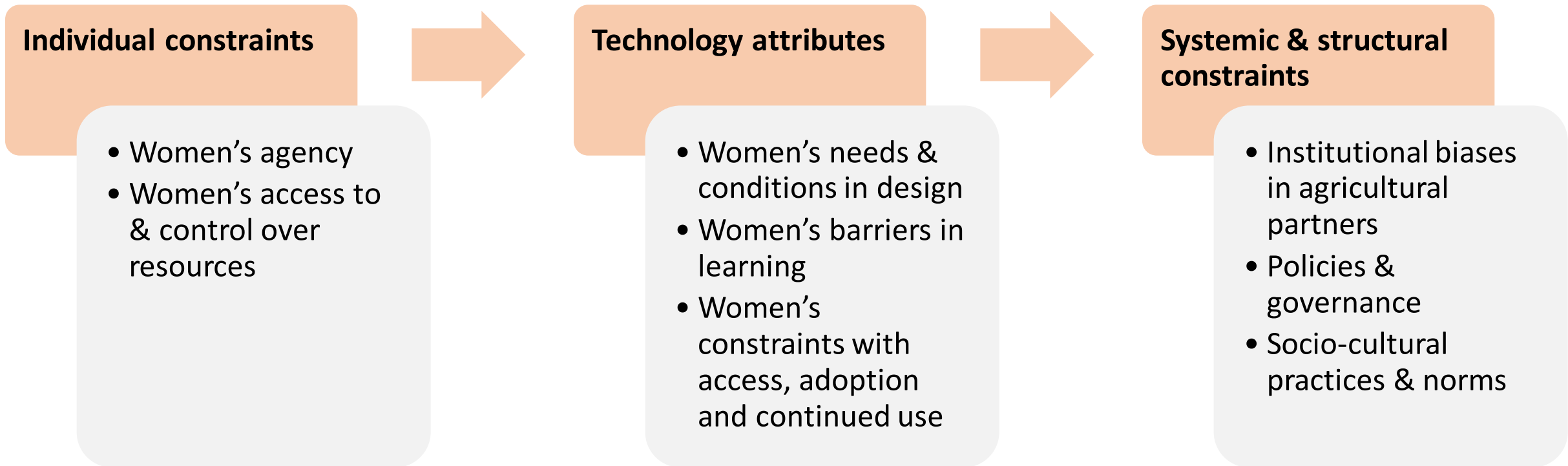
Trading:
marketing



Consumers:
household,
entrepreneurs

Women farmers play a fundamental role in all stages of the food production cycle and yet have unequal access to resources and agricultural innovation.

What is preventing women farmers from accessing mechanization?



Sources and Adapted from: UN FSS (2021) *Review of Evidence on gender equality*; Farnworth et al. (2022) Cathy Rozel Farnworth, Tahseen Jafry, Siddiquir Rahman & Lone B. Badstue (2020) *Leaving no one behind: how women seize control of wheat-maize technologies in Bangladesh*, *Canadian Journal of Development Studies*; Polar, V., Babini, C., Flores, P., Velasco, C. (2017) **Technology is not gender neutral: Factors that influence the potential adoption of agricultural technology by men and women**. International Potato Center. La Paz - Bolivia.

How can we develop & scale gender-responsive mechanization?

1. Design for women's needs
2. Think beyond design
3. Address issues of mechanization accessibility
4. Focus on policies that enable access
5. Strengthen the enabling environment

1. Design for women's needs

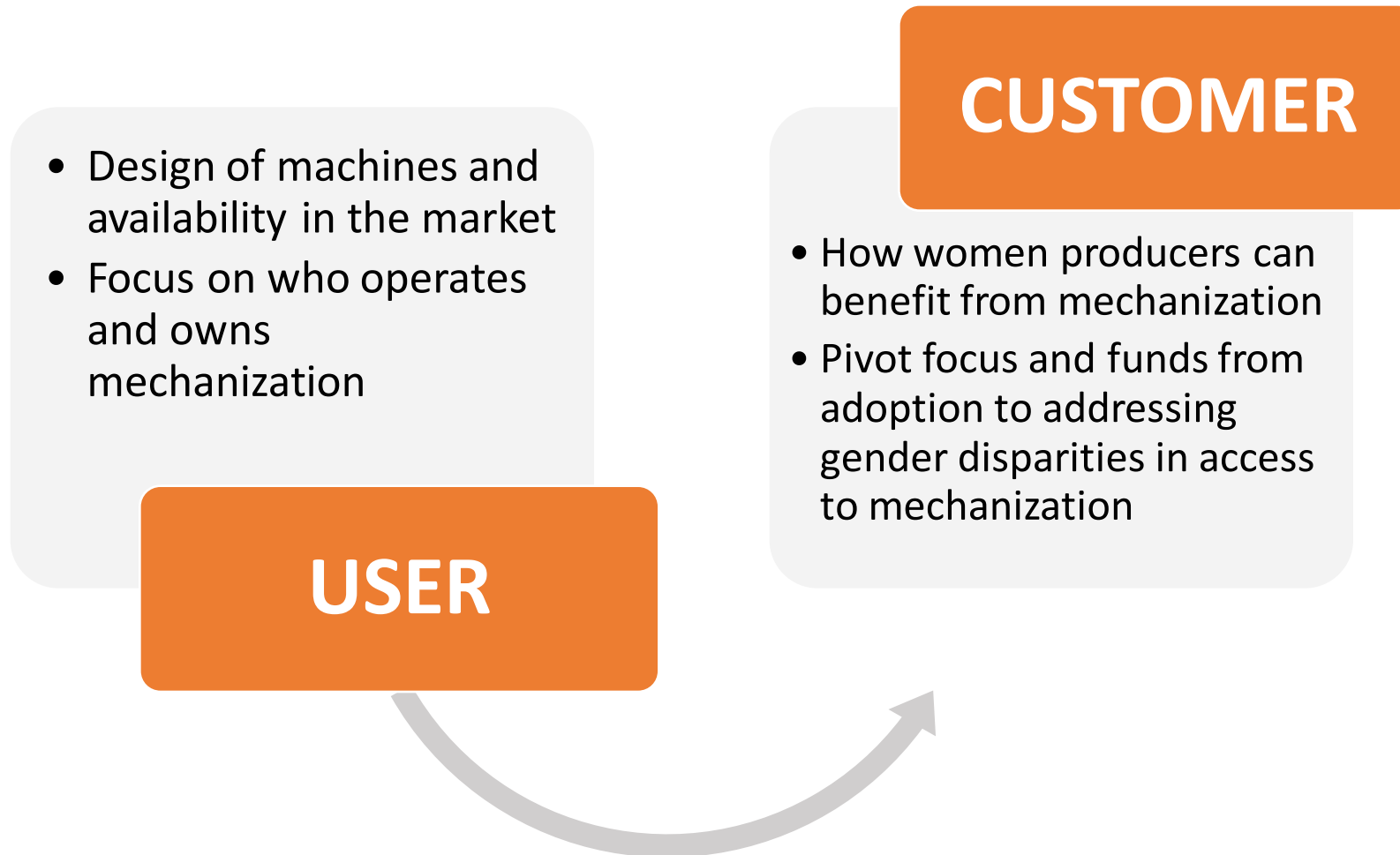
Gender-focused Technology

- 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*

2. But think beyond design



2. But think beyond design

Pivoting from a “user” to “customer” focus -

- Eliminates the need for resource constrained farmers to purchase capital intensive machinery
- Eliminates need for machinery operation, maintenance and continued purchases
- Enables both women and men farmers to access services

Focus on getting mechanization services to both men and women through innovative models

- Mechanization as a service
- Contract farming
- Farmer Producer Groups offering services

3. Address issues of mechanization accessibility



Learning

- How do women and men learn about mechanization?
- Criteria to join in government led farmer demonstrations, farmer field days, extension-led training



Access

- Access to finance or credit
- Ability to contact for services
- Mobility constraints
- Land ownership & usage



Adoption

- Decrease a burden (planting on time, lack of labor, high cost of labor)
- Increase productivity, efficiency & yield
- Provide complementary technologies needed

4. Focus on policies that enable access

- **Agricultural policies to enable access to mechanization**

- Enable subsidies
- Reduce taxation and tariffs
- Provide concessionary finance

- **Market factors**

- Governments play a role in controlling market factors
- Quality assurance & standards
- Focus of R&D
- Address capacity gaps & skills

3.2.1. Distribution of Agricultural Machinery and Implements to Individual Farmers

Under the scheme of Sub- Mission on Agricultural Mechanization (SMAM), 50% subsidy assistance for Small, Marginal, SC, ST and Women farmers and 40% subsidy assistance for other farmers will be provided for the purchase of Tractor, Power Tiller, Rotavator, Paddy Transplanter, Multi crop Thresher, Baler, Groundnut Digger, Sugarcane Detrashing Machine and Combine Harvester etc. This scheme is implemented through Direct Benefit Transfer (DBT).

During the year 2021-22, under Sub-Mission on Agricultural Mechanization (SMAM) scheme, 1,598 agricultural machinery and implements were distributed with the subsidy assistance of Rs.25.87 crore and the scheme is being continued.

From Agricultural policy, Tamil Nadu, India 2023-2024

5. Strengthen the enabling environment

- Encourage more women in engineering / ag / STEM
- Reform curriculum so both men and women learn about gender-responsive principles

Education



- Hiring both female and male engineers & researchers
- Including gendered priorities for research and technology development

Engineers & Researchers



- Hiring of both women and men in technical and managerial capacity
- Workspaces that are safe & conducive to women

Public sector employees



Thank you



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