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.

Source: FAO (2011)
Rural women are the backbone of agricultural economies

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

Source: UN Food Systems Summit 2021, CARE 2022
What is preventing women farmers from accessing mechanization?

**Individual constraints**
- Women’s agency
- Women’s access to & control over resources

**Technology attributes**
- Women’s needs & conditions in design
- Women’s barriers in learning
- Women’s constraints with access, adoption and continued use

**Systemic & structural constraints**
- Institutional biases in agricultural partners
- Policies & governance
- Socio-cultural practices & norms

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

- Design of machines and availability in the market
- Focus on who operates and owns mechanization

**USER**

**CUSTOMER**

- How women producers can benefit from mechanization
- Pivot focus and funds from adoption to addressing gender disparities in access to mechanization
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

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

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

- **Public sector employees**
  - Hiring of both women and men in technical and managerial capacity
  - Workspaces that are safe & conducive to women
Thank you