CSAM
Centre for Sustainable Agricultural Mechanization
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Gender Mainstreaming in Agricultural Mechanization

ANTAM
Asian and Pacific Network for Testing of Agricultural Machinery

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Gender Role in Agriculture

- Globally female contribution for agriculture is around 38%, but the same for Asia Pacific region is around 55-60%.
- women's work is unpaid, informal, or related to food processing and household production.
- Traditional Gender Roles: Agricultural sectors have long been characterized by traditional roles where men were typically perceived as the primary operators of machinery, while women were largely confined to manual labor.
- Women play key roles in agrifood systems, yet face barriers in accessing and adopting technologies, finance, and other productive resources, leading to a "gender yield gap".

Gender Mainstreaming for Agricultural Mechanization

- Integrating gender equality into the design, development, and implementation of farm technologies to ensure women farmers benefit equally from these innovations.
- This approach addresses barriers that prevent women from accessing and benefiting from machinery, and aims to increase overall agricultural productivity, economic growth, and food security.

Gender Responsive Technical Considerations

- **Ergonomic and Physiological Considerations**
- **Anthropometry**: Design equipment that accounts for average female body dimensions, including height, weight, reach, and grip strength, as women on average have different body sizes than men.
- **Muscular Strength**: Tools and machinery should be developed to accommodate women's typical muscular strength, which is generally considered to be about two-thirds that of men.
- **Weight and Portability**: Prioritize lightweight, manually-operated equipment or smaller, easily transportable machinery (like mini-tillers) that can be managed with less physical strain.
- **Posture**: Design tools to be used in comfortable standing or sitting postures, avoiding the need for prolonged bending or squatting, which can cause drudgery and health issues.
- **Load Carrying Capacity**: The design of load-carrying systems should be mindful of women's lower load capacity (e.g., a maximum of around 15 kg is often recommended), focusing on balanced and less physically demanding modes of transport.

Safety Considerations

- **Personal Protective Equipment (PPE)**: Ensure that PPE (gloves, masks, suits) is available in women-specific sizes and designs for proper fit and comfort.
- **Machinery Guarding**: All moving parts of machinery should have effective guards to prevent accidents, which can be a particular concern with traditional attire like sarees or dupattas.
- **Clear Instructions**: Provide clear, accessible safety instructions and operational manuals, potentially using visual formats or local languages, to ensure safe handling.

Social and Economic Considerations

Affordability and Access: Design affordable technologies and explore innovative access models (Ex: Community-based sharing / custom hiring centers run by women's groups)

- **Training and Extension Services**: Develop training programs specifically targeted at women, using female trainers and accessible formats, to build skills, confidence, and awareness of available technologies.
- **Cultural Appropriateness**: Ensure that the technology is socially and culturally acceptable, challenging existing gender norms that may deem it inappropriate for women to operate certain machinery.
- **Involvement in Design**: Incorporate input from women farmers at various stages of the design process to ensure the final product meets their actual needs and priorities.

Recommendations for CSAM from RFSAM10

- **Consider gender dimensions in mechanization standards**
  - Gender-sensitive design specifications
  - Development & training of testing systems for women-friendly mechanization
- **Capacity building**
  - Conducting assessments to identify gendered needs with mechanization
  - Awareness & skills
  - Pilot training programs
- **Creating Communities of Practice**
  - Forum for peer-to-peer learning, share best practices, knowledge sharing across Asia-Pacific
  - Provide recognition to women engineers

Potential Benefits

- Potential Benefits of Mechanization for Women: Sustainable agricultural mechanization can significantly benefit women smallholder farmers by reducing drudgery, saving time, increasing productivity, and making farming more profitable.
- increased agricultural productivity and food security, reduced physical labor and time burden for women, and enhanced women's empowerment and economic well-being

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Thank you