

# GENDER MAINSTREAMING IN SUSTAINABLE AGRICULTURAL MECHANIZATION IN ASIA AND THE PACIFIC



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# I. Need for Gender Mainstreaming

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1. Globally, women form 60 to 80 per cent of smallholder farmers, and in Asia agriculture accounts for 40 to 70 per cent of women's primary source of livelihood.<sup>1</sup> Agricultural innovations, technologies and mechanization play a key role in improving productivity and building the rural economy. Yet, most agricultural innovation programmes are primarily targeted at middle-income male farmers.<sup>2</sup> Inequity in women's access to resources, which includes agricultural machinery and innovations, has resulted in a "gender yield gap" with women farmers achieving 20 to 30 per cent lower yields than male farmers.<sup>2</sup> By integrating gender responsiveness in agriculture and food security programming, member States can ensure that both women and men farmers have better and equal access to productive resources which include agricultural technologies and mechanization. This can increase agricultural output in developing countries by 2.5 to 4 per cent, effectively lifting over 100 million people out of food insecurity.<sup>1</sup>

2. Women smallholder farmers are key actors in the food system. They are producers, processors, labourers, traders, and consumers. Yet, women face barriers in accessing, adopting, and benefiting from agricultural technologies, finance, and other productive resources.<sup>3</sup> A report of the Food and Agriculture Organization of the United Nations (FAO) showed that women constitute only 15 per cent of landholders, receive less than 10 per cent of credit and 5 per cent of access to extension and advisory services. New technologies improved agricultural innovations and sustainable mechanization have the potential to transform smallholder agriculture. However, it needs to be ensured that mechanization and innovation address gendered barriers in their design, dissemination, adoption, and scaling. They should also take into account that gender norms differ from place to place and may give rise to specific challenges that need to be adequately understood and addressed.

## II. Opportunities and Recommendations

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3. Firstly, there is a need to develop gender-focused mechanization solutions that take into consideration women's unique roles in agriculture, address their needs and are designed to benefit them. This includes the development of modern, time and labor-saving technologies which free up women's time and reduce their labour burden. Traditionally, labour-technologies are designed based on factors important to men, but gendered design considerations can increase their use by women<sup>4</sup> for instance considering women's ergonomic needs and ensuring ease of use which can lead to further adoption by women farmers.

4. Secondly, women's barriers in learning about technologies and mechanization need to be recognized and addressed. Extension and advisory services play a critical role in technology transfer to smallholder farmers. However, traditional extension is male dominated and tends to unintentionally exclude women who as a result never learn about new technologies.<sup>5</sup> It must be ensured that both women and men are targeted with relevant information on mechanization through various accessible formats and delivery structures. These could include utilizing trusted sources of information such as farmer producer organizations and female trainers, and innovative methods such as digital extension services.

5. Thirdly, adoption of agricultural mechanization is influenced by numerous factors such as cost and intra-household decision making. Women farmer's lower adoption of agricultural technology and mechanization is linked to lack of land tenure and limited access to credit. Legal structures can inhibit women's formal ownership of land, which affects decisions to invest in better agricultural technologies and machinery.<sup>6</sup> Furthermore, women face barriers in accessing suitable financial services such as credit, savings and insurance because credit access is oftentimes linked to land ownership. Women smallholder farmers can achieve better access to suitable financial services through policies and programmes that allocate resources expressly to women farmers and address gendered barriers in accessing financial services.<sup>7</sup>

6. Finally, one must consider institutional level factors that target women smallholder farmers, in order to ensure scaling of the use of agricultural mechanization. This includes ensuring women can benefit from mechanization through access to subsidies,<sup>4</sup> access to service providers,<sup>8</sup> and the ability to start individual or household level service provision businesses. Inter-agency and multi-stakeholder collaboration is needed to develop programmes that invest in policies targeting women's use and benefit from agricultural mechanization and technologies.

### III. Conclusion

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7. Evidence shows that promoting gender equality and women's empowerment in food systems will not just lead to better food security and nutrition at the household level, but also result in resilient and sustainable food systems overall. In fact, a recent study showed that investing in gender equality in agriculture brought a \$5 return for every \$1 invested, compared to a \$2 return for every \$1 invested in agriculture programmes that ignored gender equality.<sup>9</sup> To enable resilient food systems, member States need to invest in, develop and implement gender-responsive programmes and policies.

8. As part of its Five-Year Development Strategy (2020-2024), the Centre for Sustainable Agricultural Mechanization (CSAM) of the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) is paying particular attention to programmes for delivering the benefits of sustainable agricultural mechanization to women in farming communities in the region. The Centre has taken steps to embed gender mainstreaming efforts into the full sphere of its activities spanning from design, implementation, monitoring and evaluation. A dedicated training for staff was also organized in 2022 in order to improve the gender responsiveness of present and future programmes.

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