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Multi-country evidence on gender gaps in sustainable rice cultivation performance indicators in sub-Saharan Africa

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Abstract

This study examines gender gaps in five Sustainable Rice Platform performance indicators (PIs): yield, net profit, labour productivity, and the partial factor productivity of nitrogen and phosphorus (PFPN and PFPP) across ten sub-Saharan African countries (Burkina Faso, Burundi, Democratic Republic of Congo, Kenya, Madagascar, Nigeria, Rwanda, Sierra Leone, Tanzania, and Uganda). Data were collected from 3,081 rice farming households, including 2,042 male-managed and 1,039 female-managed fields across irrigated lowland (IL), rainfed lowland (RL), and rainfed upland (RU) production systems. Gender differences in the five PIs varied widely across countries and production systems. Average yield gap, defined as the difference between actual and attainable yields, was higher in female-managed farms than in male-managed farms (50 % vs. 43 %). Likewise, marked net profit gaps were observed in irrigated lowland systems, with gaps of 55 % in Burkina Faso. In rainfed systems in Nigeria, the gaps ranged from 48 % in RL and 33 % in RU. Labor productivity gaps were pronounced, ranging from 78 % in Uganda to 98 % in Nigeria, and were largely associated with lower access to equipment in female-managed farms. In terms of nutrient use efficiency, more than half of the farms surveyed recorded PFPN values above the optimal threshold (40 kg grain kg⁻¹ N). Whereas for PFPP, 78 % of farmers exceeded the desirable level (250 kg grain kg⁻¹ P), with women representing 32 % of this group. Access to irrigation, certified seed, fertilisers, training on sustainable practices, and labor-saving technologies emerged as critical drivers of productivity and profitability, particularly for women. These patterns highlight the need for gender-responsive intervention strategies that extend women's access to land and equipment, input, training on sustainable practices, and labor-saving technologies, while also improving input use efficiency and mechanisation options for all farmers according to the context.

Keywords: Gender gaps, performance indicators, sub-Saharan Africa, sustainable rice cultivation