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LABOR-RETURN ORIENTATION AND EXTENSIVE FARMING AMONG SMALLHOLDERS IN SUB-SAHARAN AFRICA: EVIDENCE FROM TANZANIA

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Abstract

Food production growth in Sub-Saharan Africa has long relied more on cropland expansion than on yield improvement. Yet as land pressure rises, many smallholders still do not systematically adopt labor-intensive yield-enhancing technologies, instead following an “extensive” pathway of cultivating more land with low yields. This paper advances a labor-return–oriented explanation. When the marginal cost of land is relatively non-salient while peak-season labor and liquidity constitute binding constraints, feasible objectives may collapse from maximizing total returns to prioritizing returns to the scarcest factor—labor. Smallholders thus raise the land–labor ratio to economize on labor, even at the cost of declining land productivity. Over time, this behavioral logic disciplines production choices and generates path dependence.

Using an unbalanced panel from Tanzania's National Panel Survey (NPS) Waves 1–5, we estimate models with household fixed effects and year fixed effects. Results reveal a stable and significant labor–land productivity trade-off: a 1% increase in cultivated area is associated with about a 0.216% increase in labor productivity and a 0.386% decrease in land productivity, implying that labor input per unit of land falls markedly with expansion (labor-intensity elasticity ˜ -0.60). Specifications without household fixed effects yield consistent directions. We further conduct a within-household test using the most recent plot-level data. After computing marginal value products from a plot production function, we find that the dispersion of the marginal value product of labor (MVPL) across plots within the same household is significantly lower than that of the marginal value product of land (MVPA), suggesting that households tend to "equalize" labor returns rather than land returns across plots—consistent with and complementary to the main panel evidence.

Palavras-chave: smallholder farming; labor productivity; land productivity; sub-saharan africa.