



Re-evaluating SRI Adoption

Socio-technical Dynamics and Yield Outcomes in Anosy's Smallholder Systems

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ABSTRACT

{ "background": "The System of Rice Intensification (SRI) is promoted across Africa as a pathway to enhance smallholder productivity and resilience. A recent study from the Anosy Region provides a detailed empirical assessment of SRI adoption and its associated yield outcomes, offering a critical case for re-evaluation.", "purpose and objectives": "This commentary critically examines the socio-technical dynamics influencing SRI uptake and performance as reported in the focal study. It aims to interrogate the interpretation of yield data and the conceptualisation of 'adoption' within complex smallholder farming systems.", "methodology": "The analysis employs a critical interpretive approach, deconstructing the methodological and analytical frameworks of the published article. It juxtaposes the reported quantitative findings with established socio-agronomic theory on technology diffusion in resource-constrained contexts.", "key insights": "The commentary identifies a crucial discrepancy: while the focal article reports an average yield increase of approximately 68% for 'full' adopters, this group constituted less than 10% of the sampled farmers. The majority practised partial, dis-adopted, or non-adoption, primarily due to labour constraints and misalignment with existing socio-technical practices.", "conclusion": "SRI's impact in Anosy is fundamentally mediated by local socio-technical realities, not merely agronomic potential. The binary classification of adoption obscures more prevalent hybrid practices and limits understanding of sustainable integration pathways.", "recommendations": "Future research and policy should shift from promoting universal adoption to supporting contextually adapted, flexible agro-ecological principles. Programme design must explicitly address labour bottlenecks and integrate with local

knowledge systems to foster resilient socio-technical configurations.", "key words": "System of Rice Intensification, technology adoption, socio-technical systems, smallholder farmers, agricultural policy, Madagascar", "contribution statement": "This commentary provides a novel synthesis by applying a socio-technical systems lens to SRI evaluation, challenging the prevalent yield-centric adoption narrative and proposing a refined framework for assessing agricultural innovations

Keywords: *Socio-technical systems, smallholder agriculture, agricultural innovation, System of Rice Intensification (SRI), Sub-Saharan Africa, yield variability, Madagascar*

Article Highlights

- Yield gains were concentrated in a tiny minority of 'full' adopters.
- Labour constraints and socio-technical misalignment drove widespread partial adoption.
- Binary adoption metrics obscure prevalent hybrid farming practices.
- Impact is mediated by local realities, not just agronomic potential.

Core Tension

A significant reported yield increase contrasts with minimal full adoption, revealing a gap between agronomic potential and socio-technical feasibility.

This commentary challenges the yield-centric narrative of agricultural innovation.

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