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“Solidarity in a competing world —  
fair use of resources”

## Development of a Sustainable Intensification Indicators Framework: Reports from the Frontline in Mali and Malawi

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### Abstract

An emerging area of science is ‘Sustainable Intensification’, with a focus on efficient use of resources for agriculture, with attention to equity and environmental services. Our multidisciplinary team is assessing the view of practitioners using sustainable intensification indicators framework for agricultural research in development. Documentation was through semi-quantitative interviews and systems dynamics exercises conducted during site visits with Africa RISING farming systems researchers in Mali and Malawi. The protocols in use by scientists were collected and assessed to document types of sustainable intensification indicators and metrics. A systems dynamic exercise was introduced as a means for researchers to consider all five domains. We evaluated metrics in use by researchers in relationship to sustainable intensification indicators and metrics that were developed through literature review and a consultative process as a living document, as a sustainable intensification framework. The sustainable intensification framework includes systematic consideration of five domains: production, economics, environment, social and human. A comparison was conducted of metrics in use and how these could be expanded or refined. At all locations production and economic sustainable intensification indicators were being used in assessment of technology performance and farming systems outcomes, whereas at some sites environmental indicators were monitored as well. The domains of social and human capacity building were rarely considered in a systematic manner, such as metrics for nutrition and equity status. The later indicators were judged by many participants to provide new insights into aspects of sustainable intensification. Overall, the sustainable intensification indicators framework provided a systematic means to consider tradeoffs and opportunities for sustainable intensification.

**Keywords:** Agriculture development, environment, equity, farming systems, indicator, metric, sustainable intensification