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Cropland expansion and productivity reduction in Malawi monitored by using Satellite data

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With rising demand for food in Sub-Saharan Africa (SSA), cropland expansion represents the main strategy to boost agricultural production. However, cropland expansion is not a sustainable form of agricultural development as there is limited arable land and increasing soil degradation in SSA. Cropland expansion needs to be monitored in order to focus intervention and propose alternatives. In this study, we monitor agriculture expansion over the past decades across Malawi using Landsat satellite data and explore factors that can explain expansion using Malawi integrated household survey data. The preliminary results showed that cropland expansion has widely occurred across the country, and the newly expanded croplands have higher productivity compared to the croplands with long cultivation history. We also found that estate agricultural land contributes to 40% of the expanded area and the level of irrigation is negatively correlated to expansion, being the dominant factors that are associated with expansion in Malawi. The results will further help to offer localized information for policy making and to develop strategies for conserving land.