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## Invasive alien plants and the future of agriculture: Reviewing control approaches in western Serengeti, Tanzania

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### Abstract

Despite its remarkable contribution to ecosystem sustainability and economic development, Serengeti and its surrounding communities are highly affected by invasive alien plants (IAPs). Although some IAPs may have beneficial applications for some communities, such as providing building materials or decoration, they are nonetheless known to be damaging. These plants have extended enormously into farmlands interfering with agricultural production in western Serengeti, the main economic activity in the region and considered the backbone of the country's economy. This study assesses the impacts of IAPs on agriculture and potential control methods in the Bunda and Serengeti Districts of western Serengeti, Tanzania. Data was collected through questionnaires, key informant interviews, and focus group discussions with randomly selected respondents. The study found that while the control of IAPs has been successful in protected areas, it remains a challenge in adjacent community lands. The results indicate that IAPs cause significant threats to local agriculture, soil quality, and biodiversity. Failure to manage IAPs will result in decreased agricultural production, hampering food security and livelihoods in the affected communities. The study recommends early detection and rapid response to new invasions and highlights the need for improved management approaches to address the problem. However, managing IAPs is an expensive initiative that requires significant investment. The study's findings are valuable to farmers, protected area authorities, policymakers, and other stakeholders interested in managing IAPs.

**Keywords:** Agriculture, biodiversity, control methods, ecosystem, invasive alien plants