

**A REVIEW ON SUITABILITY OF CROP DIVERSIFICATION AS A  
CLIMATE-RESILIENT AGRICULTURAL STRATEGY FOR THE  
TROPICS**

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The two-way relationship between agriculture and climate change is particularly important for the tropical countries that depend mainly on agriculture. Both short- and long-term strategies have adopted to improve the climate resilience of agricultural practices. Crop diversification has been promoted in multiple forms and scales as a strategy for climate resilience. However, a border analysis of the effectiveness of adopted crop diversifications is lacking and therefore, this review investigates the suitability of crop diversification as a climate-resilient agricultural strategy for the tropics. Intercropping and mixed cropping are prominent in the African, American, and Asian regions, while crop rotation is common to tropical Asia, America, and Australia. Agroforestry is widely investigated and recommended for Africa, America, and most of the other tropical countries. The crop diversification has positively affected on climate-resilient indicators that include improving yield, water and nutrient use efficiencies, soil organic carbon, and reducing soil erosion, land degradation, growth of pest and diseases, and greenhouse gas emissions. Crop diversification has also reduced the risks of farming and thereby contributes to poverty alleviation and food security. Accordingly, crop diversification can be considered as a suitable climate-resilient agricultural strategy for the tropical region. However, at the community level, a low adoption rate exists, as the adoption decision depends on access to roads, markets and irrigation facilities, income, land extent, and policy interventions. Economic incentives encouraging the production of selected fewer crops and widely used biotechnological strategies that only focus on improving yield have discouraged crop diversification within tropics. Therefore, policy incentives on improving infrastructure and credit access, and stakeholder-based participatory research are required to promote the tropical crop diversification.

**Keywords:** Climate change, Crop diversification, Resilience, Tropics