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## Circular water and food systems as a post conflict restoration and reconstruction strategy

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### Abstract

The Tigray region in Northern Ethiopia is facing significant agricultural productivity and sustainability challenges due to land degradation and climate variability. These challenges, exacerbated by war in the region since 2020, have resulted in a catastrophic humanitarian crisis, causing severe disruptions in rural-urban food supply chains. Women and girls have been disproportionately affected by the conflict and food crisis. The influx of internally displaced persons (IDPs) into urban areas has strained urban infrastructure, particularly in major urban centers like Mekelle city, the regional capital where an estimated 2.7 million IDPs are hosted. In response, communities in Tigray have turned to urban agriculture, growing high-value vegetable crops for alternative livelihoods. However, limited water and land resources, especially during extreme dry conditions, hinder these efforts. Mekelle is in the arid region of Tigray and the water supply is low. This presents an opportunity to implement and scale context-specific nature-based circular water and food solutions to address acute food insecurity and understand the institutional context supporting urban agriculture and wider questions around equity and inclusion. Through in-depth case studies and mapping of urban agriculture practices in Mekelle city and its surroundings, this study investigates the role of urban agriculture in improving food security, economic recovery, creating opportunities for employment and fostering entrepreneurship, environmental restoration as well as building resilience of communities to future crisis. The study also explores how circular water and food strategies be systematically integrated into urban planning aiming to provide survival options for people, address food insecurity, foster economic recovery and contribute to the socio-economic development in post-conflict restoration and reconstruction period.

**Keywords:** Circular economy, circular water and food, nature-based solutions, refugees, Tigray, urban agriculture