

## Urban agriculture for an inclusive green economy model in Tanzania

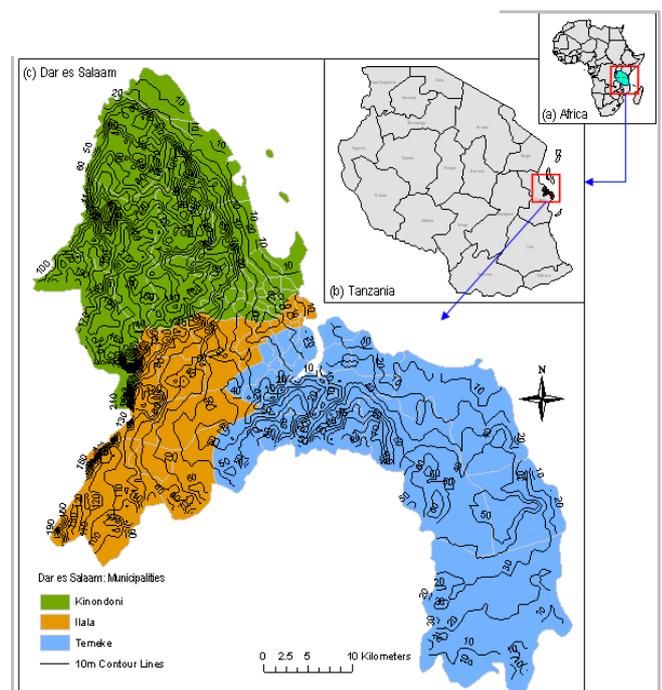
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According to the inclusive green economy (IGE) model, no one should be left out of the green economy revolution. To support an IGE approach, the Tanzanian government must develop policies to support urban agriculture ecosystems because, firstly, Tanzania is an agricultural country. Secondly, agriculture provides many benefits for households, such as boosting livelihoods and improving food security. Third, urban agriculture enhances urban biodiversity and produces ecosystem services needed for urban resilience to climate change and increases tree cover which absorbs greenhouse gases. Fourth, it can reduce food prices by shortening the food supply chain and food miles for rural-urban transportation. Finally, urban agriculture offer therapeutic green landscapes to increase wellbeing. However, access to land remains a major constraint. This study examines the willingness to pay for urban plots for the purpose of crop farming in Dar es Salaam.



### Uninformed narrow urban land-use policies constrain urban agriculture ecosystems

- Urban areas in Tanzania are characterised by conflicting land uses, limited space and outdated urban land-use regulations that do not consider the fast-changing urban environment, such as expanding urban agriculture.
- Urban agriculture ecosystems are referred to as urban and peri-urban agriculture (UPA). In sub-Saharan Africa (SSA), UPA is informal and illegal. It occurs on the outskirts of cities, in small household spaces, on vacant and undeveloped land, river basins, along streets, in industrial complexes, rights-of-way of power lines and open spaces reserved for recreational activities.
- SSA policymakers currently see industry, trade, and urban sprawl as major sources of revenue and development, and don't allocate official land for UPA.
- Agriculture depends on land and SSA's UPA differ from that of developed countries as in SSA UPA can be practiced vertically and on rooftops in addition to backyards, in line with infrastructure development such as construction of multistoried buildings. Urban SSA's infrastructure is undeveloped.

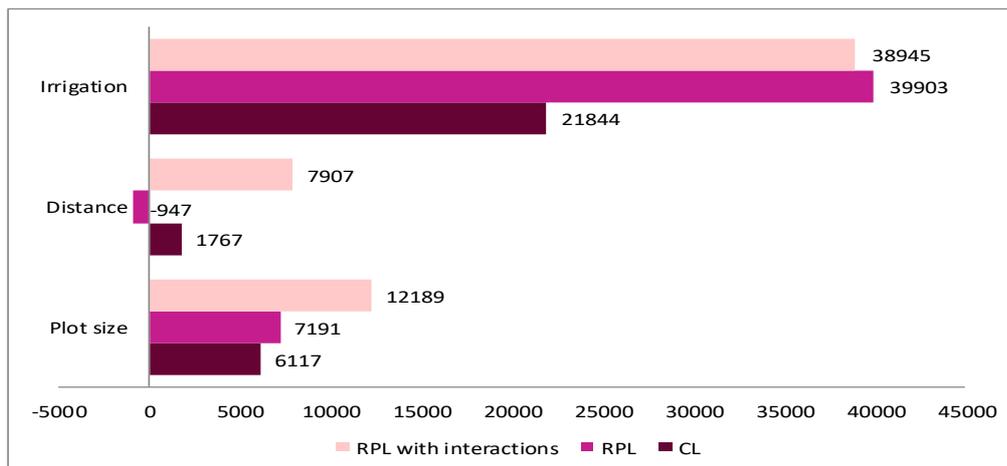


## Our aim

The aim of this study is to reveal preferences for plot attributes by estimating willingness to pay (WTP) for urban plots for the purpose of crop farming. We consider these preferences as a genuine sign of demand for land for UPA by urban dwellers, which policymakers should consider in green economy planning.

## Our methods

A choice experiment is conducted among 705 households randomly selected from all the districts of Dar es Salaam to estimate the WTP for three farm plot attributes: farmland size, irrigation, and distance of the farmland from the household. The estimation begins with a baseline model, i.e., conditional logit (CL) then proceeds to the random parameter logit (RPL) model, which has stricter assumptions in accounting for heterogeneity.



## Our results

- Results reveal that the WTP for irrigation is US\$19.47 per plot. With regard to plot size, households are willing to pay US\$6.09 per hectare, while WTP for distance to the plot is US\$3.95 per km per annum.
- WTP for an irrigated plot is about three times that of WTP for a larger plot and five times that of plot proximity. This suggests that urban farmers face climate risk, in addition to market risk. Interpreting irrigation as a signal of climate change adaptation is logical given the weather changes and water shortages in Tanzania.
- There is a high preference for mixed cropping, e.g., mixed vegetables and fruits.



## Policy message

- The results provide evidence for the importance of UPA for livelihoods in African cities. They challenge policymakers to question their current policies and also inform any future strategies for a sustainable urban green economy. The results call for policy interventions to facilitate urban agriculture ecosystems along with irrigation infrastructure to enable adaptation to climate change by urban farmers.
- Urban agriculture ecosystems have vast potential to contribute towards attainment of the Sustainable Development Goals (SDGs) of the UN's Agenda 2030. More obviously, these ecosystems can help SSA achieve SDG 11 to "Make cities inclusive, safe, resilient and sustainable". UPA can transform SSA economies to achieve the green economic growth, called for in Agenda 2030, the African Union's Agenda 2063 as well as Tanzania's Development Vision 2025.
- UPA, like rural agriculture, can be harmful to ecosystems. For example, fertilizer use can negatively impact water quality. Trees are better for storing CO<sub>2</sub> than vegetable gardens. We flag this as an area for further research. However, the policy oriented UPA proposed by us is likely to mitigate any negative effects.

### About the brief

- This brief is based on “*We can incorporate agriculture ecosystems into the urban green economy in Tanzania: Dar es Salaam households are willing to pay*” Efd Discussion Paper by Byela Tibesigwa, Herbert Ntuli, and Telvin Muta

### Further reading

- Tibesigwa, B., et. al. (Date). *In Search of Urban Recreational Ecosystem Services in Dar es Salaam, Tanzania*
- Tibesigwa, B., Ntuli, H., & Lokina, R. (2020). Valuing recreational ecosystem services in developing cities: The case of urban parks in Dar es Salaam, Tanzania. *Cities*, 106, 102853.
- Tibesigwa, B., Siikamäki, J., Lokina, R., & Alvsilver, J. (2019). Naturally available wild pollination services have economic value for nature dependent smallholder crop farms in Tanzania. *Scientific reports*, 9(1), 1-10.

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- See Efd Natural Capital Collaborative (NatCap) <https://www.efdinitiative.org/natural-capital-collaborative-natcap>



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