Editorial Introduction

This is Volume 40 of the *Journal of Geographical Association of Tanzania* (*JGAT*). Its production is based on critical and original work that has been verified through a double-blind peer review process. The Journal has a new Editorial Team from early 2020 and its determination is to raise up to the challenges of promoting quality research and publications, which are key to our engagements with theoretic and methodological debates in Geography and related social sciences fields. The Journal is published annually under the Department of Geography of the University of Dar es Salaam. However, paper manuscripts that link Geography with other disciplines across the world are encouraged to attract inter- and multi-disciplinarity in knowledge generation and application.

This volume contains ten papers that elucidate important geographical and research issues related broadly to social, economic, cultural and political contexts that influence human-nature relations. More specifically, the papers are drawn from different Geographical disciplines that have recently grappled with pertinent issue of the ongoing climate change as it relates to water management and development; variability in rainfall (onset and cessation); trends and frequencies of extreme events, as well as adaptation to the changes. The paper by Joel Norbert is insightful on water resource modelling as it relates to the management and development scenarios in Tanzania's Great Ruaha catchment that cuts through the country's Southern Agricultural Growth Corridor and protected ecosystems. The paper assesses the water management and development scenarios in the catchment within the context of the current agricultural transformations. A multi-criteria analysis technique is used to assess how different development interventions affected the direction of change in environmental, social, and economic performance. Based on this assessment, the paper argues that dam constructions, diversion canals and improved irrigation schemes have proved to be the best development and management scenarios that can improve water availability for both agriculture and natural ecosystems, both of which experience stress during the dry season.

Lilian Mulamula and colleagues shed light on variability in rainfall onset, cessation, and duration in the catchments of the southern coast of Tanzania. The paper is based on a study that was conducted in an area with rainfall uncertainties that have impacted agricultural activities. With rainfall data ranging from 1970s and 2015, and its statistical computations, the paper establishes that rainfall onset has been more variable than cessation during the specified time. However, the period between 1970 and mid-1980s had early onsets, which shifted to late onsets in post-1985, with increasing incidences of fake onsets. With these findings, the paper suggests that understanding the onset-duration relationship, in combination with climate forecasts, can be used to enhance agricultural plans and decisions.

Philip Mzava and colleagues add to this discussion through their critical assessment of trends and frequencies of extreme rainfall events in the urban catchments of Dar es

Salaam. They use daily rainfall data for the period of fifty years (1967-2017) to investigate temporal variability in annual, seasonal, and extreme rainfall. In their rainfall trend analysis, they provide evidence of decreased total annual rainfall and an increase in both annual and seasonal maximum rainfall. The statistical analysis of rainfall data supports the paper's argument that most of the pluvial and fluvial flooding are from rainfall events with a 2 to 10-year return period. Accordingly, the paper points to an important issue of the design and carrying capacity of drainage systems in the area.

Magreth Bushesha complements the foregoing paper in her engagements with urban resident's perceptions and actions relating to adaptation to climate change. Focussing on the role of urban forestry, the paper employs an exploratory research design to capture the perceived link between urban forestry and climate change. The paper finds the number of trees planted per household relatively low considering the space available per home ground. Also, the findings reveal that there is inconsistency in residents' perceptions when compared with, and between, the past studies. Comparatively, Doto Kuhenga's paper, which examines the understanding of climate change among the Maasai community of Ngorongoro, starts from the view that the adoption of relevant climate mitigation measures is subject of access to climate information. The paper presents narratives obtained through a triangulation of data indicating that the Maasai people have established coping strategies to help them reduce the impacts of climate change in their contexts. The paper uncovers that the target community has developed indicators that help individuals and social groups to access climate change knowledge in their area, and adopt necessary and useful measures.

The papers that follow have diversity of issues with, for example, Zahor Zahor uncovering the importance of people's place-values on sustainable forest management, and how such values can be incorporated into forest management actions and decision-making. Drawing from a study of ten villages in Pemba's Ngezi forest reserve, and through mapping of their economic and cultural values on forest ecosystem services, the paper demonstrates how material and non-material benefits from forest ecosystem cause landscape fragmentation. These benefits are construed differently though areas outside the reserve being undervalued and not utilized effectively for material services while only one out of six high-valued places are located inside the reserve. The paper suggests, therefore, that place-values should be considered when examining sustainable forest resource management.

The paper by Editha Ndunguru and Godwin Lema brings to our attention the need for understanding factors that affect the adoption of liquefied petroleum gas. It reflects on these factors in the context of municipalities, which are in a different context from rural areas. Within this context, the paper suggests that at the micro level, different individuals have different perceptions based on personal experiences; but the quantity of sell, household income, size, and the level of awareness influence adoption of liquefied petroleum gas. At the macro level, fuel availability is assumed to play an important role in determining the adoption and usage of gas, which calls for the creation of enabling environment for liquefied petroleum gas usage in the municipality, especially by paying more attention to issues related to education and income.

The papers by Kizito Ngowi and Christopher William and that of Verynice Chodota and colleagues are on health issues as they relate to geographical accessibility of facilities and maternal high-risk births, respectively. Whereas the two papers complement each other, Ngowi and William's study uses the ArcGIS Network Analyst to build a road network dataset and measure the shortest network-distance and travel-time to the closest healthcare via road networks. They suggest that most health facilities are not easily accessible by walking; and that there is a poor spatial accessibility to health facilities and wellbeing among residents in peri-urban areas. This calls for the intervention of local government authorities to enhance accessibility to sparsely distributed healthcare facilities. Chodota and colleagues add to the forgoing by reiterating that much remains to be done to curb high maternal mortality rates and maternal high-risk births. The studied population in Njombe was found to be at high-risk of maternal births due to maternal age, parity, the lack of antenatal and postnatal services, lifestyles, and bias towards male maternal births attendants. Other intermediate factors were education, occupation, place of residence, and culture. Intervention measures recommended and adopted by the government, non- governmental and civil societies for reducing high-risk maternal births in the area included the construction of additional health facilities in villages, wards, districts, regions and at the national level to meet the needs of maternal health care services to minimize high-risk maternal births, as well as reduce high maternal mortality ratio.

Prof. Christine Noe
Chief Editor