

A scientometric analysis of the Tanzania science system

Joseph Maziku
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Tanzania outlook



- Population: 53million
- Labour force: 70% Agriculture.
- Independence: 1961
- GERD/GDP: 0.5%
- S&T policy: 1986
- R&D Institutions: 74

The Mt. Kilimanjaro



Outline

- Objective
- The main research question
- Methodology
- Progress to date

Research objective

The study aims to understand and assess the state of science in Tanzania by assessing research performance of Tanzania R&D institutions. Through scientometrics and bibliometrics the study assesses scientific publication of R&D institutions , publication trends, research funding and the impact of produced scientific outputs.

Additionally, through secondary survey and qualitative data the study assesses the factors influencing the research performance and characteristics of scientists in Tanzania.

The main research question

What is the state of the science system in Tanzania.

Research Investment in Tanzania



- The top research funders
- The trends in government funding
- The trends in terms of investment by scientific fields and institutions

TZ Research capacity



- The features and size of the human resources .
- The research collaboration rates
- How do research collaboration patterns differ between different scientific fields
- Association between receiving research funding and collaboration?
- Are there gender differences in research collaboration?

Research Outputs and Impact in TZ



- The trends of scientific publications
- The top R&D institutions in terms of publication outputs
- The sector wise distribution of publication outputs
- The trends in the citation impact

YSA

The main factors that enable or constrain the research performance of young scientists in TZ.

How are these factors related to access to resources, networks and collaborations, mentoring and intentional support.

Methodology

Phase I: Historical study

The research genesis in Tanzania pre and post-independence. The study collected and analyzed the relevant archives regarding establishment and organization of the R&D institutions in the country during the colonial era. The second part involved of information on the R&D landscape, legal and institutional frameworks after Tanzania's independence in 1961.

Methodology continue

Phase 2: Scientometrics and bibliometrics

Quantitative analyses will be employed to evaluate the performance of the TZ R&D institutions in terms of publication outputs, publication trends, citation impacts and other related indicators.

Methodology continue

Phase 3: Secondary analysis of survey data

The secondary analysis of the survey data will identify the research publication trends, quantity and impact of publications of scientists. The study will analyze the research-funding mechanisms, collaboration patterns, and related factors that influence the performance of research scientists and career development.

Methodology continue

Phase 4 The qualitative field study.

The interviews will aim to provide deeper insights into the factors that influence the research performance and career development of scientists in Tanzania. The interviews will seek to triangulate the results of bibliometric analysis, the survey about factors which influence research performance and career development of the young scientists in Tanzania.

Progress

Chapter 2: The history of science in TZ

- **Evolution of R&D Institutions pre-independence 1900-1960**
Livestock, Fisheries, Agricultural and Forestry and Medical Research Institutions
- **Research Coordinating Mechanisms in the EAC 1948-1977**
- **Sectoral Research Institutions Established after the Collapse of the EAC In 1977**
- **Research Cooperation Between Tanzania & Sweden**

Progress

Chapter 3: The Tanzania STI Landscape

- **R&D Institutions**

Higher Education, the Structure of the education system,
Students enrolment in higher education and Challenges facing
higher education institutions

Research Institutions

- **Research Investment in Tanzania**

GERD in TZ and GERD for selected countries

- **Research Capacity in Tanzania**

Tanzania R&D Personnel and Researchers (Head Count) and FTE

R&D Personnel and Researchers (Head Count) and FTE for selected countries

Progress

- **Chapter 4: Governance, Science and Technology Policy in TZ**
The Global and African Initiatives towards the Formulation of S&T Policy in TZ

Implementation of S&T Policy of 1986, 1996 and 2010

Achievements of R&D Activities in Tanzania
Challenges facing Implementation of National R&D Policy
Sectoral Research Policy
Agriculture (Crop production and Livestock) Policy

Thank you