Tanzania Development Status and Strategies and the Role of Science, Technology and Innovation (ST&I)

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Adalgot Komba
IDS
University of Dar es Salaam

Outline of the Presentation

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- Dev Trends–Phase I: 1961–1967
- Dev Trends–Phase II: 1967–1985
- Dev Trends–Phase III: 1985–2000s
- Towards Dev Vision 2025
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Tanzania – Some Basic Facts

- According to 2012 Census Tanzania has slightly over 44 million people, nearly half of them are children
- Population growth averaging at 2.9% per year.
- With geographical size of over 900,000 sq. km., Tanzania is the largest country in East Africa region
- Predominantly an agrarian with nearly 80 percent of population living on agriculture
- With per capita income of USD 580 (2011), belongs to a group of least developed countries

Dev Trends-Phase I: 1961-1967

- The newly independent country inherited weak economic base-dominance of agriculture and rudimentary manufacturing industries
- Share of industrial sector to GDP about 5 per cent
- Export trade dominated by agricultural commodities and raw minerals with little value addition
- Early 1960s also witnessed trade deficit with EA neighbours-Kenya and Uganda

Dev Trends-Phase I, cont;

- Measures taken to attract investments in manufacturing industries
- Incentives included tax holidays, protective tariffs and guarantee against nationalization
- Import-substitution became a strategy of choice for essentially resource-based industries
- They included textiles, leather, beverages and tobacco
- The First Five Year Development Plan, 1964-1969, placed emphasis on manufacturing
- National Development Corporation (NDC) was formed to spearhead industrialization

Dev Trends-Phase I, cont;

ST&I Issues in Phase I

- As was the case with overall economy the country inherited a very weak ST&I system
- This is reflected in a number of institutions for educating and training human resources
- There were a couple of technical schools and no science and engineering colleges
- In 1965 a Faculty of Science was established at University College of then University of EA
- In 1968 national Scientific Research Council (Utafiti) was created as coordinating body

Dev Trends-Phase I, cont;

Famous quotes of the 1960s

- "Simply to expand agriculture, however, would be to condemn Tanganyika to a position of permanent economic inferiority in the world. We must have an industrial base to our economy. Massive investment in manufacturing is called for under the plan"
- "We must run while they are walking"
- "While they are going to the moon let us go to the village"

Dev Trends-Phase II: 1967-1985

- **Arusha Declaration of 1967** is perhaps the most important development with far-reaching socioeconomic consequences
- As a blueprint for socialist transformation it led to nationalization of 'major means of production' including manufacturing industries
- Perhaps, more important, it was beginning of public sector led economic development through nationalization and public investments
- The 1970s witnessed unprecedented growth in parastatals in all areas of national economy

Dev Trends-Phase II, cont;

- Import-substitution industrial growth continued with modest increase in share to GDP reaching close to 15 per cent by mid-1970s
- In 1975 the Basic Industry Strategy (BIS) was launched as a long term strategy for industrial restructuring/transformation
- One critical investment of period was the establishment of the Kilimanjaro Machine Tool in Moshi as the basis for future machine industry
- The second half of the 1970s witnessed a declining economic performance attributed to a number of internal and external factors (global recession of the early 1970s, high crude oil prices, drought, collapse of EAC)

Dev Trends-Phase II, cont;

- By the early 1980s Tanzania was experiencing a blown economic crisis
- Intervention measures National Economic Survival Program (NESP), 1981-1982 and Structural Adjustment Program (SAP), 1983-1985, proved inadequate to address the situation
- The period was characterized by balance of payments problem, shortages of food and industrial consumer goods resulting from very low capacity utilization within import-substitution manufacturing industries

Dev Trends-Phase II, cont;

ST&I in the Phase II

- This can be considered as institution building phase with the establishment a number of teaching and research institutions
- The important milestones include: Faculty of Engineering and Institute of Production Innovation (IPI) at UDSM; technical colleges (Dar and Mbeya); Faculty of Agriculture now SUA; TIRDO, TEMDO, CAMARTEC, NIMR and a number of research institutions or organizations across the country

Dev Trends-Phase II, cont;

ST&I Issues in Phase II

- Interestingly, true to the spirit of '***necessity is the mother of invention***' the economic crisis of the early 1980s spurred innovations across sectors, manufacturing in particular
- The Ministry of Industry innovative scheme provided financial and technical support for potentially highly productive innovations
- As direct consequence to economic crisis the period also witnessed systematic decline of resources to support ST&I institutions

Dev Trends-Phase III: 1985-2000s

- The most characteristic feature in Phase III is the sweeping economic and political reforms with direct and indirect impact on ST&I
- Combination of devaluation, liberalization and de-nationalization (privatization) paved the way for increased role by private sector
- Rounds of SAPs during the second half of the 1980s into the early 1990s helped to stem deterioration and achieve modest economic growth

Dev Trends-Phase III, cont;

- Structural changes of the 1980s and 90s laid down the basis for some economic stability going into the 21st century
- In the past one and half decades Tanzanian economy has been growing at between 5 and 8 percent
- Support from development partners has been crucial in sustaining the tempo of economic development
- However, efforts towards poverty reduction remain elusive

Dev Trends-Phase III, cont;

- Sector wise the Tanzanian economy has undergone significant adjustment in the past two decades
- The agricultural sector which dominated national economy for four decades has its role on the decline
- The sector's share to GDP has declined from slightly over 40 percent during 1990s to below 30 percent

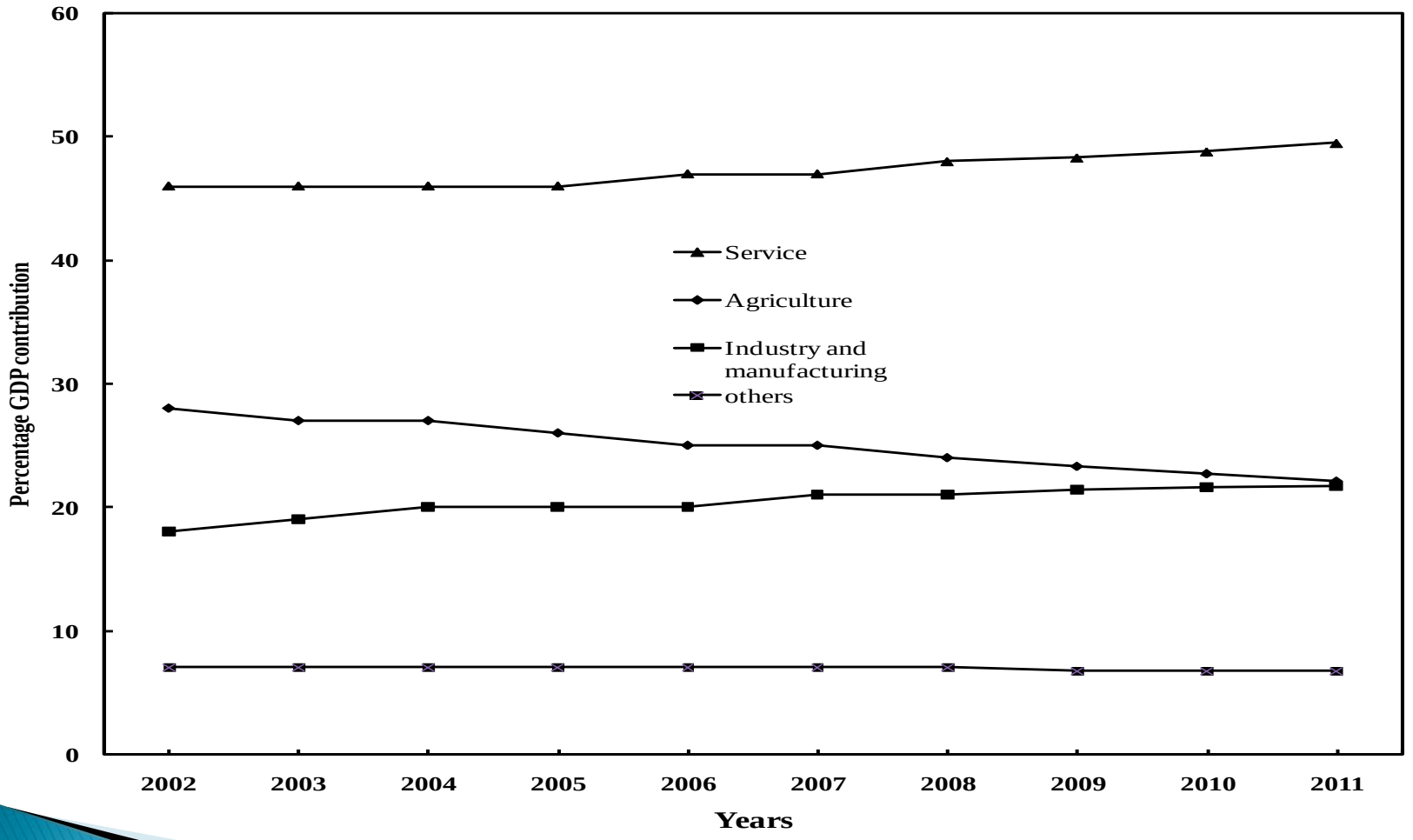
Dev Trends-Phase III, cont;

- However, decline in contribution from agriculture has not been replaced by the rise in manufacture
- The share of manufacturing has remained below 10 percent throughout the 2000s
- Instead service sector has emerged as the important contributor to the economy
- This can be attributed to exponential growth in financial services and communication business especially mobile phones

Dev Trends–Phase III, cont;

	2005	2006	2007	2008	2009	2010	2011
GDP growth (annual %)	7.3	6.7	7.1	7.4	6.02	7.04	6.4
GDP per capita (constant 2000 US$)	379.6	394.2	410.6	428.7	441.5	458.7	473.8
Trade balance (% of GDP)	-8.91	-13.14	-16.86	-13.64	-11.92	-10.73	-19.76
Current account balance (% of GDP)	-7.7	-7.6	-10.1	-12.3	-8.4	-8.3	-16.5
Gross savings (% of GDP)	17.4	17.4	16.2	18.7	19.9	24.5	20.3
GDP fixed capital formation (% of GDP)	24.6	24.6	27.2	29.3	28.4	31.5	36.05
Inflation, consumer prices (annual %)	5.03	5.03	7.2	10.2	12.1	6.2	12.6

Dev Trends-Phase III, cont;



Dev Trends-Phase III, cont;

ST&I Issues in Phase III

- Some developments in Phase III have serious implications on ST&I. They include the following:
  - Public resources flow to support ST&I activities, though have modestly risen, they remain below critical mass needed to sustain the system
  - Still relatively infant private sector is not in position to fill the gap left by public support
  - Intense competition from imports hence necessity of ST&I
  - FDIs are emerging as important sources of technology in the country

Dev Trends-Phase III, cont;

- In terms of ST&I policy the following can be noted:
  - In the mid-1980s, around 1985/86, TZ had its first explicit national S&T policy promising support to development of S&T in the country
  - The S&T policy was reviewed in the mid-1990s to accommodate socioeconomic changes of the previous decade
  - Also in the 1980s COSTECH replaced SRC as advisory and coordinating body
  - More recently, there has been review of ST&I policy and other related policies

Towards Dev Vision 2015-Strategies and Policies

- Development Vision 2025 with its goal of transforming Tanzania into middle income, semi-industrial economy is so far the most ambitious comprehensive development strategy
- Towards that goal there are a number of plans, strategies and policies.
- These include, among others:
  - National Strategy for Economic Growth and Reduction of Poverty (NSGRP)
  - Five Year Development Plans
  - Mini-Tiger Plan 2020
  - Sustainable Industrial Development Policy

Towards Dev Vision 2015-Strategies and Policies

- Of course, Tanzania is faced with a number of challenges whose solution requires investment in ST&I
- They include the following:
  - Unbalanced national economy with overreliance on few economic activities (e.g., balance between agriculture and industry, import substitution and export orientation)
  - Low level of 'human capital' needed to sustain knowledge-based economy
  - Poor infrastructure which constraining efficient economic development

Towards Dev Vision 2015-Strategies and Policies

- Challenges to Dev Vision 2015:
  - Low level of development in science, technology and innovation
  - Lack of political will necessary to follow through policy implementation
  - Overdependence on donors often at the expense of local development agenda

Towards Dev Vision 2015-Strategies and Policies

Implications for ST&I Policies

- In era of knowledge-intensive global economy ST&I are indispensable. The following measures are needed:
  - Sustained investment in human resources by supporting teaching and training institutions
  - More resource allocation to R&D institutions
  - Forge and strengthen linkages-more focus on 'Triple Helix'
  - Review of sectoral policies which impact ST&I
  - Political will to implement policies-'walking the talk'

Concluding remarks

- As we look forward to the year 2025 and next 50 years of independence there is need to rethink the role of ST&I in implementing development plans, strategies and policies
- While the challenges are immense there are also opportunities for addressing them in a manner that can deal with issue of poverty reduction with inputs from ST&I
- Massive investment will be needed in the following areas: education (human capital); infrastructure (efficiency); ST&I (productivity, competitiveness) and environment (sustainability)

Thank you very much for your attention!