A global and regional context on the business and the science of policy making

Dr. Victor Konde

Officer in Charge, Technology and Innovation Section
UN Economic Commission for Africa
Agenda 2063
7 Aspirations; 34 Priority Areas, 20 Goals & 174 Targets

Aspiration 1: Prosperous Africa based on inclusive growth and sustainable development

Goals (Priority areas)

(2) Well Educated Citizens and Skills revolution underpinned by Science, Technology and Innovation (Education and STI skills driven revolution)

(3) Healthy and well-nourished citizens

(4) Transformed Economies (STI driven Manufacturing / Industrialization and Value Addition)

(5) Modern Agriculture for increased productivity and production

(7) Environmentally sustainable and climate resilient economies and communities
The 2030 Agenda – “Leave no one behind”

✓ 169 targets of which 14 targets explicitly refer to technology, 34 relate to STI (improvement, universal access and effective innovation system).

✓ Technology and/or innovation is not necessarily inclusive.

✓ Science, technology and innovation, can open up new opportunities and challenges that may narrow or increase inequalities.
<table>
<thead>
<tr>
<th>The Goals</th>
<th>Level of STI (high impact tech)</th>
<th>Business Opportunities Total of $12 trillion</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-Food; 3-Health; 7-Energy</td>
<td>High (60 tech)</td>
<td>$6t</td>
</tr>
<tr>
<td>4-Education; 8-Jobs, Growth; 9-Industry, Innovation; 11-Cities</td>
<td>Very high (15 tech)</td>
<td>$5t</td>
</tr>
<tr>
<td>6-Water; 13-Climate; 14-Oceans; 15-Forests</td>
<td>Medium (7 tech)</td>
<td>$0.5t</td>
</tr>
<tr>
<td>1-Poverty; 5-Gender; 10-Inequalities; 16-Forests</td>
<td>Low (4 tech)</td>
<td>$0t</td>
</tr>
</tbody>
</table>

- **Source:** IATT-STI 2017
Overall - Africa is failing behind?

- 2% of global researchers – largely unchanged
- 1% of global expenditure on R&D – largely unchanged
- 0.3% of global $2.3 trillion high-tech exports value
  - Agenda 2063 target 50% of manufactures- estimate = 10-15%
- 0.2% of global $423 billion payment (BoP) for IP
  - Low tech acquisition
- 0.07% of global $380 billion receipts (BoP) for IP
  - Low tech export

It has implications on ability to catchup or leapfrog.
Message 1: From a policy making basis: where and what size of opportunities does STI present? It informs policy making
The Science of STI Policy Making

1. Agenda setting
   Define the problem (identify causes, size and who is affected, and where) and
   define associated objectives

2. Policy Analysis
   Frame questions, assess past performance and future options,
   techno-socio-economics viability, and prioritise

3. Policy Formulation
   a. Draft policy
   b. Design implementation process (strategy)

4. Policy Adoption
   Process (technical committee, cabinet, parliament approvals)

5. Policy implementation
   Actions: What by who, when and where, what scale

6. Policy Evaluation
   Monitoring, management and evaluation
The Business of STI Policy

Source: Ministry of Education, Culture, Sports, Science and Technology, Japan.
Examine broadly held assumptions on STI policies in Africa

• Lack of policy encourages inactions
  • Codified or uncodified?
  • Is policy action needed?
  • A ‘me too’ or a true policy investment?

• Fantastic policies but poorly implemented
  • Are the policies good if they could not be implemented?
  • No political will, Lack of funding etc but policy was approved and institutions built?

• Stakeholder engagement very poor?
  • Do they have any stake and which stake, how large or how small?
  • Key ministries uninterested in STI – what was their roles
  • Fragmentation of efforts or competition which is needed to drive innovation
Countries have mastered the process of how to make policies but:

...should be MASTERS of their countries (sovereignty in STI)
  • Helps fix disconnects and fragmentation

...learn successes in policy making and not just outcomes
  • what made Korea, Ireland or Cuba invest heavily is STI? How when they were poor?

...STI is about national development – how to maximise winners, minimize losers, build partnerships for growth and deliver impact at scale etc

...policy making is divorced from implementation, monitoring and evaluation (i.e. we make policies for others not ourselves)

ECA is developing a guide that countries can use with or without our support
Other potential partnerships

- STI Roadmaps – Ghana, Kenya and Ethiopia (UNESCO, UNCTAD etc IATT on STI)
- Working Group on Capacity Building – IATT
- NEPAD on STI measurements (R&D; CIS)
- ECA/AUC STISA 2024 implementation and monitory tools
- ECA & AUC Africa Education, Science, Technology and Innovation Scoreboard
- ECA and member States – Fourth Industrial Revolutions
A lesson from the past:

• The Presidents letter:

“The Office of Scientific Research and Development...represents a unique experiment of team-work and cooperation in coordinating scientific research and in applying existing scientific knowledge to the solution of the technical problems paramount in war. ...The information, the techniques, and the research experience developed [your office] and by the thousands of scientists in the universities and in private industry, should be used in ... the improvement of the national health, the creation of new enterprises bringing new jobs, and the betterment of the national standard of living..”

• (White House Letter of 17 November 1944 by FRANKLIN D. ROOSEVELT, President, United States of America to the Director- OSRD).
Lesson from “Science The Endless Frontier”

• The response:
“The Government should accept new responsibilities for promoting the flow of new scientific knowledge and the development of scientific talent in our youth. ..The time has come when such support should be extended to other fields (beyond agriculture).

The effective discharge of these new responsibilities will require the full attention of some over-all agency devoted to that purpose. ..I recommend that a new agency for these purposes be established….It should be fully responsible to the President and through him to the Congress for its program.” (Science - The Endless Frontier, 25 July 1945, Dr, Vannevar Bush)

• NSF was formed 1950 - $8.3 billion in 2020- for that purpose
Thank you.