



Work Stream 6 on Capacity-building

Training on Science, Technology and Innovation Policy and Policy Instruments for SDGs for Tunisia and the Arab States

18-20 October 2022

Session1: Current Approaches to STI Policy Making in the Context of the SDGs

STI and SDGs: Role in Policy evaluation and design



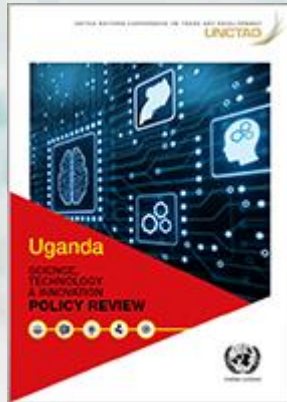
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UNCTAD STI Policy Reviews

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2. Zambia*
3. Dominican Republic
4. Uganda*
5. Ethiopia
6. Panama
7. Rwanda*
8. Iran
9. Thailand
10. Oman*
11. El Salvador
12. Ghana
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Science, technology and innovation / Strengthening National Innovation Systems

Strengthening National Innovation Systems

Science, Technology and Innovation Policy Reviews (STIP Reviews) are undertaken by UNCTAD at the request of member States.

Through a STIP Review, a country's STI stakeholders can identify the key strengths and weaknesses of their innovation systems and establish strategic priorities for its development.

The STIP Review report published by UNCTAD includes a diagnosis of the national system of innovation (NSI), an assessment of the STI policies in place, and is normally complemented by in-depth studies of specific sectors, institutions or STI-related problems that are of particular relevance to the country under review.



The STIP Review process is also intended to raise awareness and to stimulate a policy dialogue among stakeholders about the role of STI in national development and to encourage the emergence of stronger linkages among the STI players.

Another key goal of the STIP Review process is to identify practical actions that favour technological capacity-building (the capacity to generate, absorb and diffuse knowledge and to create and support dynamic linkages and learning processes among STI stakeholders) and the strengthening of their innovation capabilities (the practical and productive materialization of science and technology into socially or commercially valuable products and services).

STIP Reviews can provide the basis for capacity-building activities targeting various elements of the innovation system. In several beneficiary countries, STIP Reviews have ignited significant renewal in STI policy, helped raise its profile in national development strategies and facilitated the inclusion of STI activities in international cooperation plans.

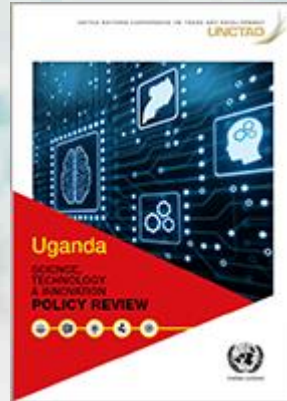
Documents and Publications

Examen de las políticas de ciencia, tecnología e innovación : República Dominicana
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OBJECTIVE:



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Focus: Assisting policy making in STI

Situation: *new policy being prepared or revised but*
modest Monitoring & Evaluation process

- 1. Policy evaluation, assessment of NSI**
2. Assessment of innovation performance
3. Goals and outcomes
4. How to move forward?

Focus: Assisting policy making

Situation: modest Monitoring & Evaluation process,
... but new policy being prepared or revised

- 1. Policy evaluation, NSI assessment**
2. Assessment of innovation performance
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4. How to move forward?

Policy evaluation, NSI assessment

1. STI policy under review

- ✓ Coherence with national development strategy, SDGs?
- ✓ Development strategy recognises STI?
- ✓ Outreach to other policies?

... STI policy is cross-cutting

2. All other policies

- ✓ Acknowledgement of *S, T and Innovation?*

3. Are policies and policy tools linked, inter-related?

- ✓ Implementation matrix (*who does what?*)
- ✓ Collaboration, joint activities?

4. National System of Innovation (*Innovation Ecosystem*)

- ✓ Framework for policy design?
- ✓ Mapping of NSI?
- ✓ Information gatekeepers?

5. Reporting directions and information flows

- ✓ Within the STI policy?
- ✓ Among STI stakeholders? (*horizontal flows*)

6. Development of a consensus narrative – *what works, what doesn't*

- ✓ Cannot replace data, but may provide insight
- ✓ Data does not provide the narrative
- ✓ Discussions with a many diverse stakeholders

1. STI policy under review

- ✓ **Coherence with national development strategy, **SDGs?****
- ✓ **Blueprint for a better and more sustainable future for all**
- ✓ ***Key challenges are interconnected!***
- ✓ ***Provide for directionality***



1. STI policy under review

- ✓ Coherence with national development strategy, SDGs?
- ✓ Blueprint for a better and more sustainable future for all
- ✓ **Key challenges are interconnected!**
- ✓ Provide for directionality

- **people** (SDGs 1,2,3,4 and 5)
- **prosperity** (SDGs 7, 8, 9, 10 and 11)
- **planet** (SDGs 6, 12, 13, 14 and 15)
- **enabling framework for implementation** (SDGs 16 and 17)
- **167 predefined SDG targets**



1. STI policy under review

- ✓ Coherence with national development strategy, SDGs?
- ✓ Blueprint for a better and more sustainable future for all
- ✓ Key challenges are interconnected!
- ✓ ***Provide for directionality***
Example: **Agriculture, SDGs and STI in ...**

Current policy	Relevant SDGs	Revised objectives	Relevant technologies	Ways forward
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Current policy	Relevant SDGs	Challenges – Objectives?	Relevant technologies	Ways forward ✓✓✓
<p>Subsidized price of</p> <ul style="list-style-type: none"> - Seed (maize) - Fertilizer <p>Intervention to provide maize to millers in districts where crop has failed</p> <p>Banning maize exports when crop yield below average</p> <p>Focus: farmers and millers, i.e., <i>supply side: producers and intermediaries</i></p>		<p>Universal and secure access to healthy food:</p> <ul style="list-style-type: none"> - Enabling innovation in production, distribution, consumption to impact ... - Economical production of adequate calories - Diverse diet and high nutritional quality contributing to public health - Gender equality and reduction of income, rural and other inequalities - Environmental preservation and conservation (soil erosion and biodiversity) <p>Focus: beneficiaries, group of interdependent actors, includes <i>consumers, nature</i></p>	<ul style="list-style-type: none"> • Water management • Sustainable tilling (e.g., shallow ploughing) • Waste recovery (energy source, bio digestors) • Digital enhanced precision agri • Digital extension • Enhanced meteorology (computational, predictive, satellite technology) • Fintech (financial empowerment for women and rural populations) 	<ul style="list-style-type: none"> • Developing holistic and systemic approach embracing all stakeholders and beneficiaries • Reposition food system i/o agri sector in NDP • Improving coordination between agri research and innovation support • Enabling Climate Smart Agriculture • Support for business model innovation • Pairing innovation, ICT, with fintech and financial inclusion • Linking STI with Agri and Industrial policies

1. STI policy under review

✓ ***Provide for directionality***

Example: **Agriculture, SDGs and STI in ...**

RECOMMENDATION 1: consolidate a knowledge base on STI for food system transformation.

RECOMMENDATION 2: improve coordination on STI policy for the food system.

RECOMMENDATION 3: build a multi-stakeholder STI food system governance.

RECOMMENDATION 4: develop a vision on pathways for food system transformation.

RECOMMENDATION 5: formulate an STI-led strategy to foster food system transformation.

RECOMMENDATION 6: build evaluation and learning capacity for better implementation.

How does STI relate to SDGs?

- All SDGs require:
 - knowledge, science, technology and innovation
 - interaction and partnerships (**SDG 17 > NSI**)
 - sustainable action > firms-entrepreneurs > frontline innovators



Objective of Linking STI and SDGs:

Profound transformation driven by fast-evolving and converging technologies

1. No definitive list of technologies

2. Some common features of SDG technologies

- Fast changing, short adaptation cycles
- Soft technology, business models, mind frame change
- Lower costs, more choices
- Open science, technology and innovation
- New forms of work and inclusiveness
- Innovation:
addressing change, disruptive innovation, creative destruction



Current STI developments and SDGs

- **Precision agriculture:** SDGs 1, 2, 9, 12, 15
- **Water management, wastewater treatment and nutrient recovery:** SDGs 6, 9, 11, 15
- **Circular economy:** SDGs 6, 7, 13, 14, 15
 - > residual, waste = resource for products, energy
- **Transformative technologies:** SDGs 3, 4, 8, 9, 10
 - > exponential growth, impact, strong links with ICTs (e.g.: AI, IoT, robotics, autonomous V, blockchain, 3D printing-additive mfg.)
 - > *digital meets traditional tech!*



4. How to move forward?

- Many **UN and other International Organizations** provide policy advice on bilateral basis
- International consultancy firms, local research institutions
- Decisions are needed – good will is not enough:
 - ✓ **Address** an underlying **policy process**
 - ✓ **Define objectives, goals** – what is to be achieved?
 - ✓ **Establish who are the STI stakeholders, map the NSI**
(names of specific organizations, firms and industries)
 - ✓ **Develop commitment**: timeline, funding and human resources
- **Collaboration with no vested interests** in the outcome
- **IATT WS6 agencies** can guide and help

A stylized, colorful globe of the Earth is positioned on the left side of the image. The globe features a mix of blue, green, and yellow tones, suggesting a vibrant, perhaps abstract or artistic representation of the planet. A soft, glowing light effect emanates from behind the globe, creating a warm, golden-yellow aura that fades into the white background. The overall composition is clean and modern.

THANK YOU!

Chart 7: Policy strength, markets and institutions

