Session 6 Monitoring and Evaluation of STI policies in the context of the SDGs -key concepts

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Systemic Monitoring and Evaluation (M&E): one of the weaknesses facing the STI systems

Monitoring vs Evaluation: two complementary processes

Policy making as a learning process, learning by experience: M&E framework can enhance learning processes

Evidence-based policymaking; to inform policymakers about “what works”
Why data is needed? Why measuring STI?

- Accountability for spending of public funds
- Informed strategy and forecasting; evidence-base
- Coordination of plans and budgets
- Monitoring policies and activities
- Evaluation of programmes and projects
- Benchmarking and international comparisons

Indirect benefits:
Learning; bringing stakeholders closer
Improving management of R&D
Monitoring AND Evaluation

- **Evaluation** responding to ‘how, why, where and who’ questions

- **Monitoring** responding to ‘how much’, ‘to what extent’ and ‘how fast’ questions.

- Building evidence-based judgments, evaluation addresses specific **policy objectives** such as productivity, effectiveness, efficiency, inclusivity, diversity, relevance and sustainability

- M&E supported by well-designed selection of indicators. **Performance indicators** should include baseline and target measures for expected results.
Quantitative data

- Measurements approach: inputs and outputs indicators to monitor policies
- Data providing information on the effort devoted to R&D and Innovation and the outputs measured through publications etc.

Qualitative data

- Need for information on policy instruments, interactions, contextual factors, legal frameworks, coordination mechanisms

Monitoring practices

Monitoring provides information on where a policy, program, or project is at any given time compared to some baseline or objective and is largely descriptive.

Input indicators
- R&D Funding
- R&D Labour force
- R&D Infrastructure
- Foreign Direct Investment

Output indicators
- Patents & Licenses
- PhDs
- Scientific Publications
- Innovations
- Number of High-Tech Enterprises

National Innovation system
**Evaluation practices**

- For accountability—delivering on political promises
- For advocacy—convincing by using evidence from findings
- For learning purposes—reporting findings to help organizational learning
- For analysis and identifying gaps—seeing what works, what does not, and why
- For building institutional memory
- For multi-stakeholders engagement - through a participatory process
- For gaining support—demonstrating results to help gain support among stakeholders
- For building understanding—reporting results to enhance understanding of projects, programs, and policies.

**Evaluation gives evidence of why outcomes are or are not being achieved and attempts to provide a causal account.**

**Evaluation Methods**

- Quantitative: Cost-benefit analysis; Randomised Trials
- Case studies; user surveys; interviews; peer reviews; focus groups
What ways to describe how a policy leads to results and impacts?

**Logical Framework:** how the policies, instruments, programmes lead to outputs, and how outputs will lead to outcomes and goals

**Theory of Change:** possible pathways leading to change
Theory of Change vs Logical Framework

Theory of Change
Shows the big picture with all possible pathways – messy and complex

Logical Framework
Shows just the pathway that your program deals with – neat and tidy

Same general purpose – to describe how a policy will lead to results
M&E Framework

• **Inputs**: refer to factors required to perform the required activities in interventions and programmes (investment, funding, human resources, infrastructure, equipment)

• **Outputs**: deliverables of programme or intervention activities (tangible materials, manuals, devices, equipment, etc. or more intangible services such as technical support, consultations, and training workshops etc).

• **Outcomes**: immediate changes that we wish to bring about through policy interventions (gains, benefits...) - a change has occurred in short-term, medium-term

• **Impacts**: often seen as the long-term accumulated ‘ultimate’ outcomes. The term ‘results’ is sometimes used as synonym for impact.
## Logical Framework to M&E Framework

### LOGICAL FRAMEWORK

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<thead>
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<th>INDICATORS</th>
<th>MEANS OF VERIFICATION</th>
<th>RISKS / ASSUMPTIONS</th>
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### M&E FRAMEWORK

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<th>INDICATORS</th>
<th>DEFINITION</th>
<th>BASELINE</th>
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Different Paradigms

❖ Policy Mix

STI Policy Settings and Implications for M&E

❖ SDGs

❖ M&E
Challenges at Monitoring and Evaluating STI Policies

STI Policies
- complex cause-effect relationship
- Multiple goals
- Variety of agents, interactions
- Unclear assumptions about innovation models

M&E
- simple cost-benefit ratio of measures does not deliver
- more instruments to assess and stakeholders to inform
- Real risk of under-evaluation
- tension complexity/system vs. (simple) accountability
Key Take away message

M&E is key, it’s a learning process, individual and institutional

Monitoring and Evaluation work in tandem

Monitoring for information on where we are; Evaluation for evidence about achievements of outcomes - provides a causal account

M&E has the objective to create virtuous policy cycles

M&E should consider that Policy making is not linear process

M&E framework need to be developed as part of the STI policies
Thank you