

***Overview on conceptual
issues on STI policy
monitoring and evaluation***

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Session 4:

STI Policy Monitoring and Evaluation

**On-line training session on STI policy
and policy instruments
for SDGs for Asia and the Pacific**

November 18-21

UN-IATT Workstream 6 on
Capacity-Building in STI for SDGs

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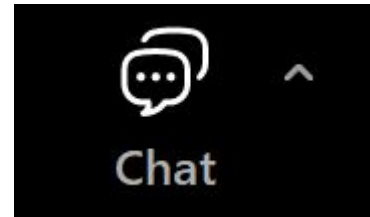
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Why M&E Matters: Driving Policy Success



Accountability

M&E demonstrates how resources are used and managed to stakeholders, ensuring transparency in STI initiatives



Effectiveness

M&E demonstrates policy performance and impact, measuring how well objectives are being achieved in STI initiatives



Resource Allocation

M&E informs budget decisions, ensuring efficient use of resources in STI.



Knowledge Building

Systematic evaluation creates a valuable knowledge base for future STI policy design.

Monitoring & Evaluation: Definitions

Monitoring

Continuous data collection on specified indicators to track progress and resource utilization in STI policies.

Evaluation

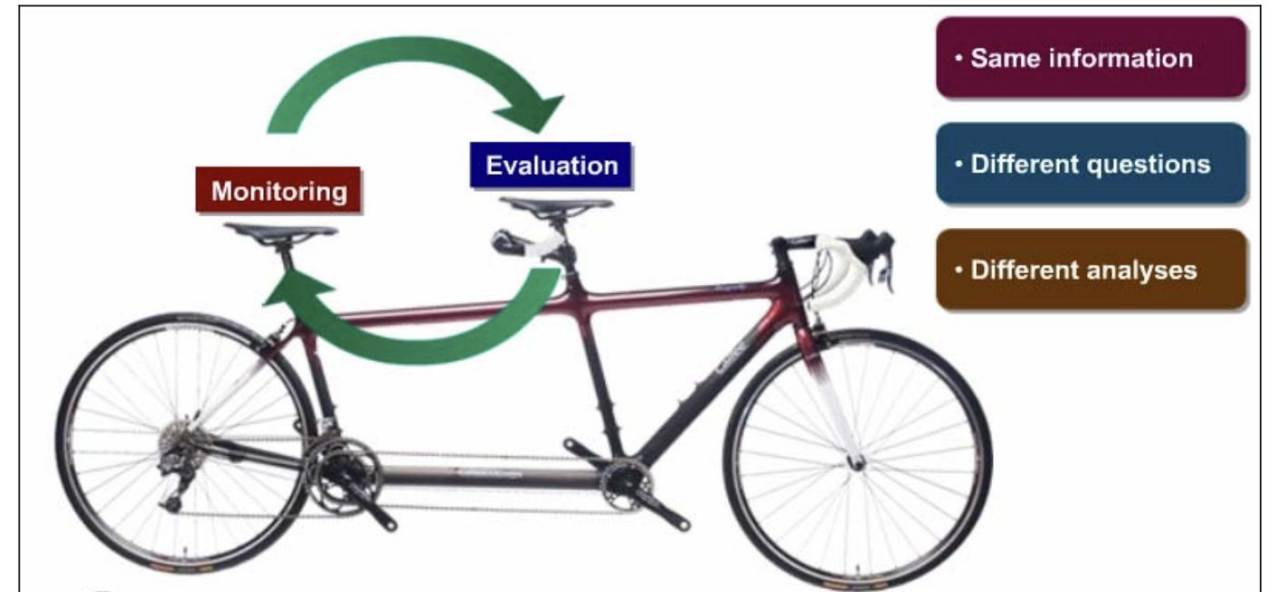
Systematic assessment of STI policy relevance, efficiency, effectiveness, impact, and sustainability to inform decision-making.

Monitoring & Evaluation: Key Differences

Dimension	Monitoring Policies	Evaluating Policies
Frequency	Ongoing (leading to operational decision-making)	Episodic (leading to strategic decision-making)
Scope	Broad (questions anticipated in the policy design)	Issue-specific
Data collection	Routinised	Customised
Attribution	Assumed	Questioned
Resource allocation	Part of infrastructure	Project-specific
Information use	Flexible/evolving use	Predetermined/negotiated use

Monitoring & Evaluation: Synergies

- **Complementary functions:**
 - Monitoring tracks progress, while evaluation explains why progress is (or isn't) being made in STI.
- **Sequential and informational complementarity:**
 - Monitoring data can inform evaluation questions, and evaluation findings can identify new areas for monitoring in STI.
 - Both can use the same data but ask different questions.



Understanding Monitoring: Tracking progress

Purpose of Monitoring:

- To track progress towards achieving STI objectives
- identify deviations from planned targets, and
- provide timely information for decision-making.

• Key Elements of Monitoring:

- Defining clear indicators,
- establishing baselines,
- setting targets,
- collecting data regularly,
- analyzing trends, and
- reporting findings.

Research and development expenditure (% of GDP)



Data from World Bank

Patent applications, residents



Data from World Bank

Understanding Monitoring: More than quantitative indicators

Input indicators

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



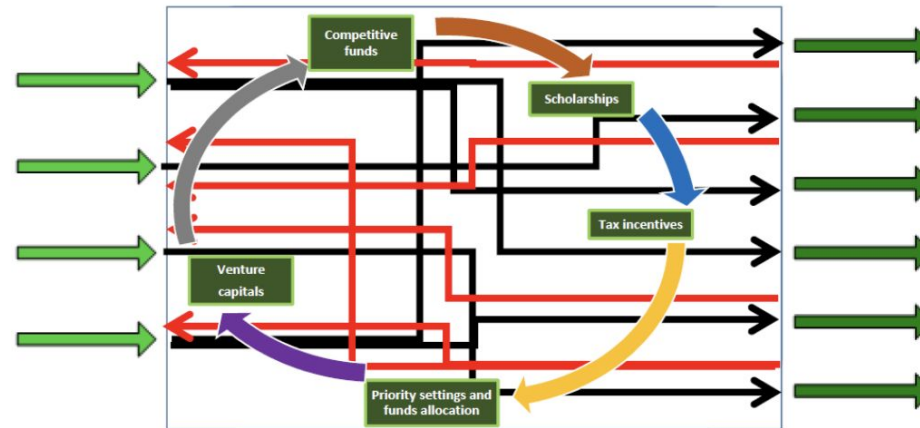
National Innovation system is a black box



Output indicators

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

Input



Output

Monitor the Policy Mix

Policy instruments

Legal frameworks

Understanding Monitoring: Fundamental Limits

1 Causality Gap

It does not provide evidence that the change has been caused by the given policy or intervention

2 Process Opacity

It does not show how changes are happening

3 Design Assessment

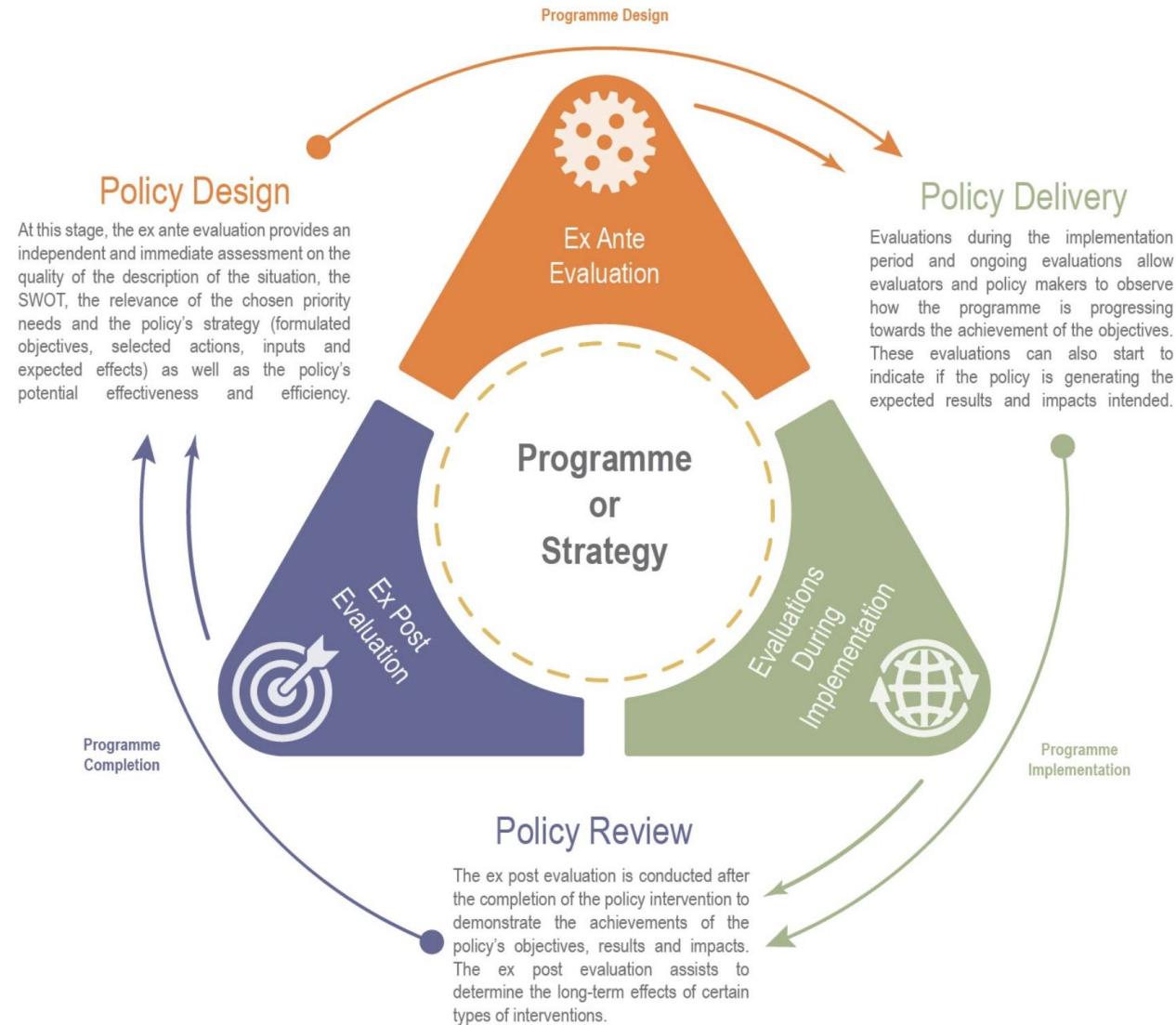
Limitations what is good and bad about the design of the program or policy

Understanding Evaluation:

Purpose of Evaluation: Exploring causal links between policies and their effects.

- Strategy: are the right things being done?
 - Rationale or justification
 - Clear theory of change
- Operations: are things being done right?
 - Effectiveness in achieving expected outcomes
 - Efficiency in optimising resources
- Learning: are there better ways?
 - Alternatives
 - Best practices
 - Lessons learned

Understanding Evaluation: Types of evaluation



Source: EC (2021). The role of monitoring and evaluation in the policy cycle.

https://enrd.ec.europa.eu/evaluation/back-basics/role-monitoring-and-evaluation-policy-cycle_en

Systematic analysis of the lasting or significant changes in people's lives brought about by STI policy intervention

- Key Features:
 - Attribution focus
 - Counterfactual analysis
 - Long-term perspective
- Methods:
 - Experimental (Randomised Controlled Trials)
 - Quasi-experimental
 - Theory-based approaches

Key Takeaways: STI policy monitoring and evaluation

1

Complementary Roles

Recognise that monitoring provides information about current status, while evaluation establishes causal links.

These functions work in tandem to create a comprehensive understanding of policy impacts.

2

Integrated Framework

Develop M&E frameworks as integral components of STI policies from the outset. This integration ensures that **evaluation criteria are aligned with policy objectives** and that appropriate data **collection mechanisms** are in place.

3

Capacity Building

Strengthening the skills and resources of government to conduct effective M&E. This includes providing training, developing specialized tools, and fostering a culture of evidence-based policymaking.

4

Transparent Communication

Communicate M&E results openly to **build public trust, demonstrate accountability, and justify resource allocations** for STI policies.

Thank you

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UNESCO

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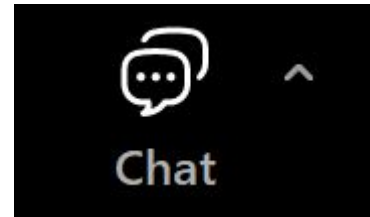
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