

STI for Inclusive and Sustainable Growth: **Cambodia Outlook 2030**

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Dr. TRY Sophal
Deputy-Director General
General Department of STI, MISTI
try.sophal@misti.gov.kh

Content

- ▶ Some Keywords
- ▶ Cambodia's STI Status
- ▶ Cambodia's Vision
- ▶ Brief Roadmap Making Process
- ▶ Cambodia's STI Roadmap 2030
- ▶ Way Forward



Some key words



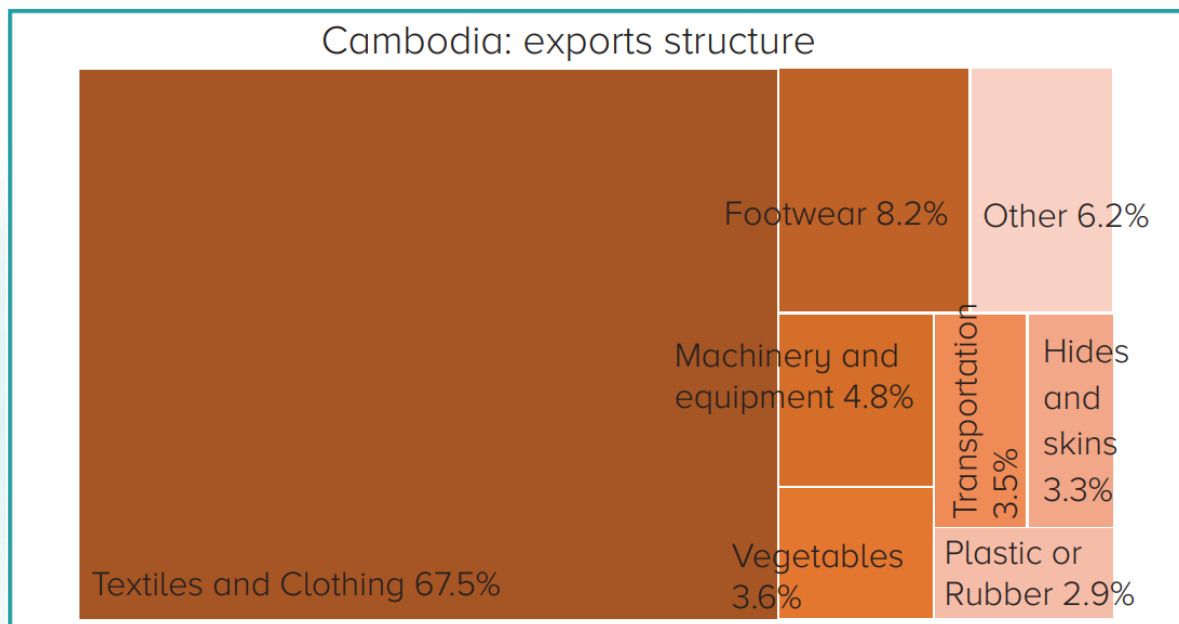
- ▶ **Roadmap:** schedule as part of a lengthy or complex program.
- ▶ **Strategy:** a plan of action or policy designed to achieve a major or overall aims.
- ▶ **Policy:** a course or principle of action adopted or proposed by a government, party, business, or individual.

Cambodia's STI Status

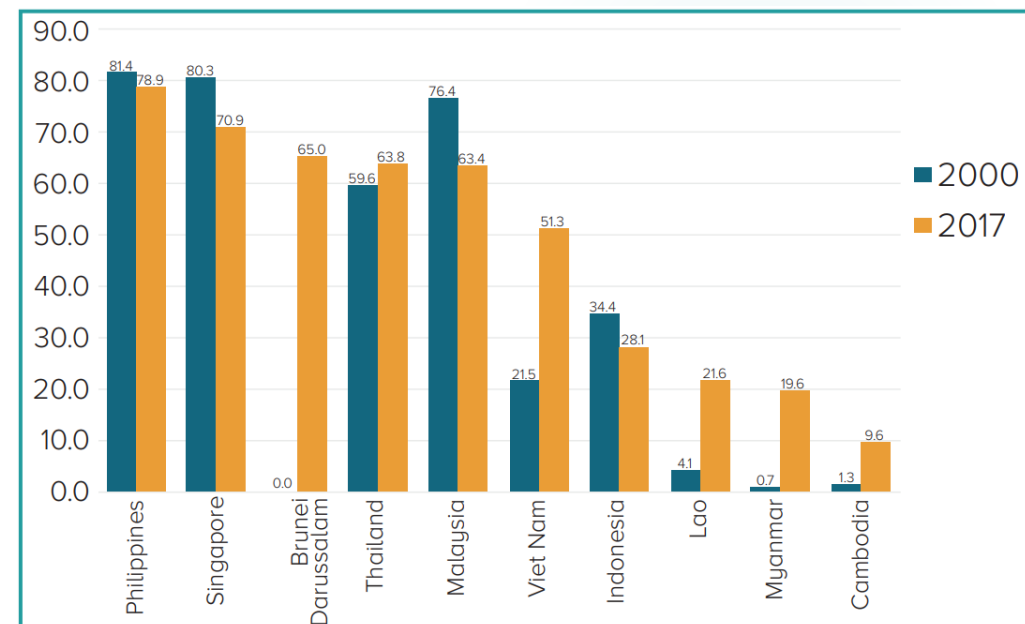
4



**Cambodia's structure of export, 2016
(%manufactured exports)**



**ASEAN-medium and high-tech exports
(%manufactured exports), 2000 and 2017**



Textiles, clothing and footwear ~ 76%

Cambodia's STI Status

5



Top Spending Countries

Country	% GDP
Israel	4.95
South Korea	4.81
Sweden	3.33
Japan	3.26
Australia	3.17
Germany	3.09
Denmark	3.06
United States	2.83
Belgium	2.82
Finland	2.77

Cambodia Spending on R&D Comparing to Others

Country	% GDP
Cambodia	0.12
Singapore	2.08
Thailand	1.00
Vietnam	0.52
Lower Middle-Income Countries	0.58
Upper Middle-Income Countries	1.72
High Countries	2.59
OECD countries	2.57
EU	2.21
World	2.27

Cambodia's STI Status

6

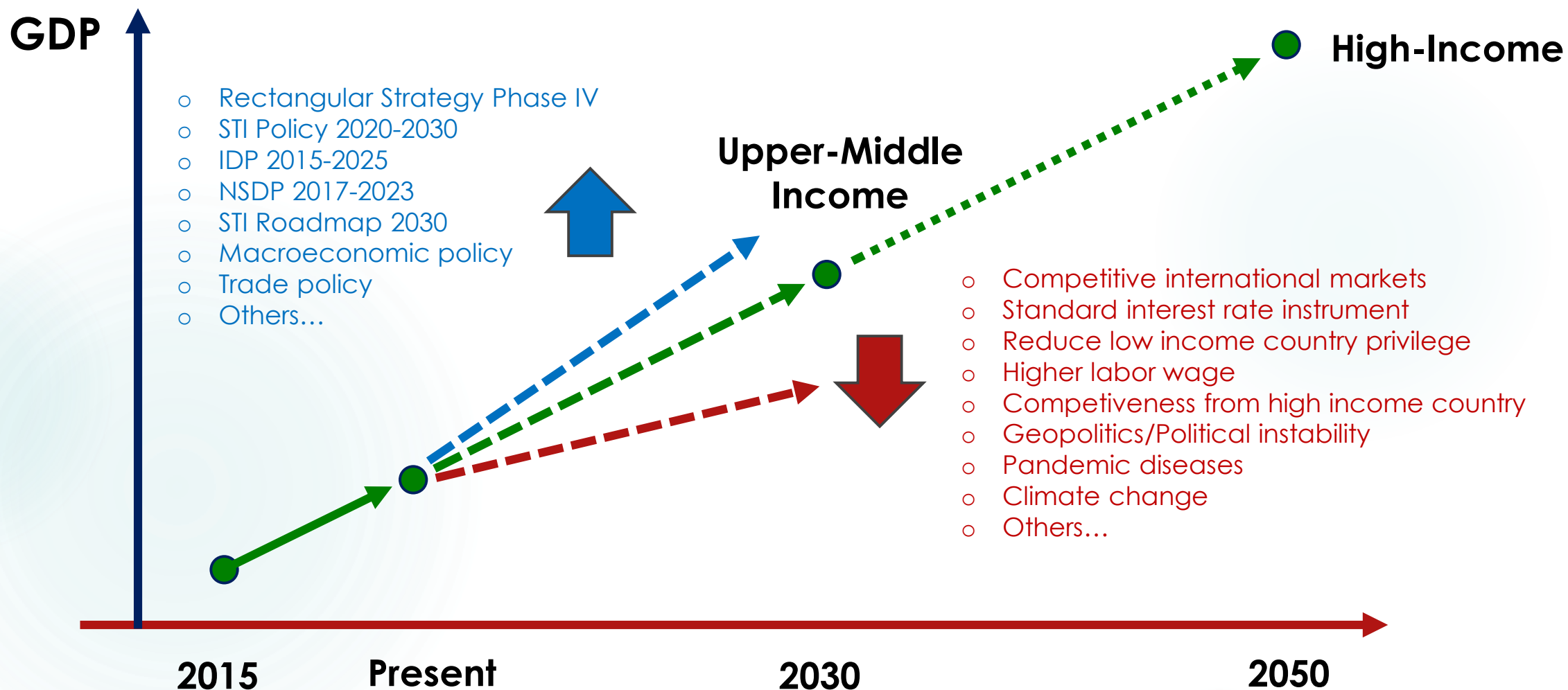


R&D Indicators, 2017 or latest year available

Indicator	Cambodia	ASEAN Average
R&D Expenditure (% of GDP)	0.12	0.70
Private sector share of total R&D expenditure (%)	19	45
R&D personnel per million inhabitants (FTE)	122.1	1 974.8
Total patent applications (residents and non-residents, per million population)	4	348
Scientific and technical journal articles (per million population)	7	412

Cambodia's Vision

7





Industrial policy and the middle-income trap

Brief Roadmap Making Process

9



Situational analysis

- recent revolution
- current contribution
- perspective of STI
- gaps...



Vision and goal identification

- data from scoping interview
- stakeholder engagement



Interview

- deep understanding



Analysis

- data from STI-related stakeholders, global indicator, statistics,...

Foresight and scenario planning

- Baseline scenario analysis
- Alternative scenario
- Scenario analysis
- Feasibility study (facilities, competency, resources...)
- Development plan
- Technology foresight
- Strategic foresight

STI-related norms and policy

Deep drive STI assessment

Prioritization of sector, technology, action plan...

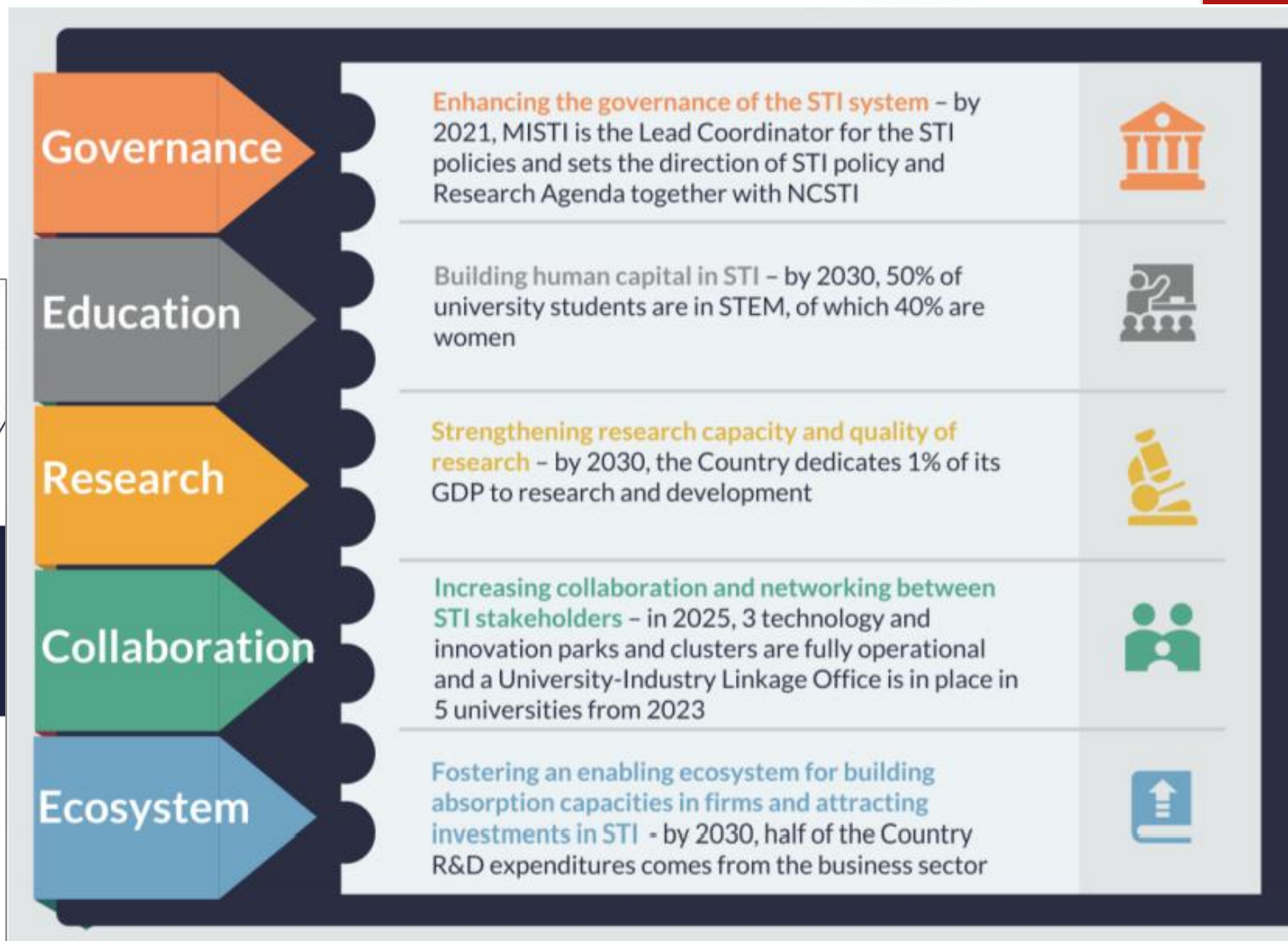
Policy making

- Science community
- Business
- Society



Summary of Cambodia's STI Roadmap 2030

10





Governance

Improving the governance of the NIS

- Clarifying the roles of all stakeholders in implementing the National STI Policy
- Strengthening awareness and capacities of the Government to implement the National STI Policy
- Monitoring and evaluating the implementation of the roadmap to design evidence-based policies

Education

Building human capital in STI

12



- Enhancing the scientific culture in the society
- Enhancing technology readiness of youth at primary and secondary school
- Increasing the attractiveness of STEM curricula and the number of STEM graduates in the higher education system
- Strengthening the quality of teaching and collaboration with private sector at the TVET institutions



Research

Strengthening research capacity and quality of research

- **Setting a NRA**
- **Providing competitive R&D funding for applied and basic research**
- **Enabling the research ecosystem and providing the right incentives to conduct research**



Collaboration

Increasing the collaborations and networking between STI stakeholders

- Making universities and research institutions more open to the private sector
- Rolling out incubation and acceleration facilities across provinces to support start-ups and SMEs scale-up
- Piloting technology and innovation and clusters to generate knowledge transfers between large firms, SMEs, and higher education and research institutions

Ecosystem

Fostering and enabling ecosystem for building absorptive capacities in firms and attracting investment in STI

- **Enhancing innovation capacities of SMEs**
- **Increasing availability and access to innovation financing for SMEs**
- **Attracting and incentivizing FDI to invest in STI and collaborate with local SMEs**

Way Forward

16



- ▶ Cambodia's STI Roadmap 2030 : Implementation, M&E, (***Governance, Education, Research, Collaboration, and Ecosystem***)
- ▶ National Council of STI : See & Approve the direction of STI Policies
- ▶ Development of NRA; GO-SPIN; ASEAN-COSTI...
- ▶ Rethinking about the directionality
- ▶ Strengthening the capacity of ministerial officials
- ▶ Enhancing collaboration and networking
- ▶ Human capital readiness for IR 4.0
- ▶ Innovation performance survey on firm level (readiness, bottleneck and needs...)

References



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