



STEM Education in Cambodia

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❖ **STEM Policy**

❖ **STEM at Basic Education**

❖ **STEM at Higher Education**

- **Industrial Development Policy 2015-2025**
- **Skill Gap and Skill Shortage**
- **Address the Gaps by HEIP**
- **Qualification Framework and Accreditation**

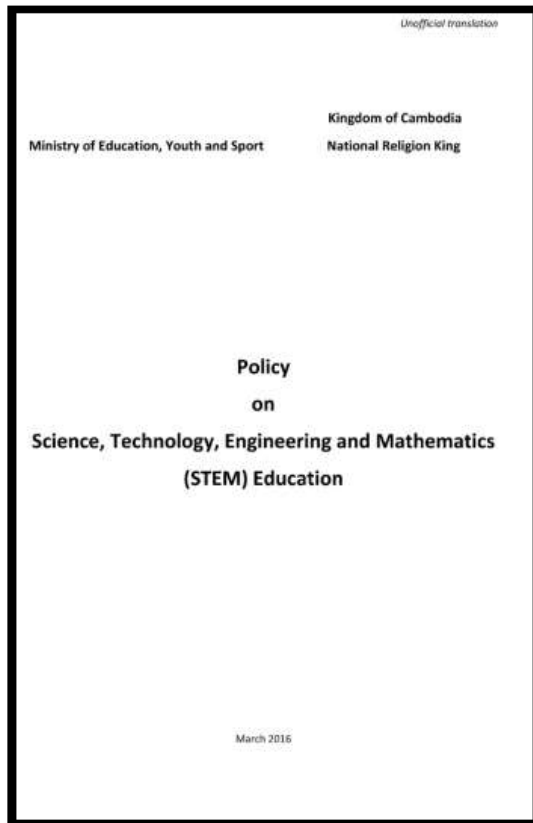
Introduction



Phnom Penh City, Cambodia

Economic growth in the rate of 6-7%/year

STEM Policy



Science



Technology



Engineering



Mathematics



STEM is deemed useful agenda for present and the future of Cambodia as its vision to strengthen and expand **STEM** Education service to serve national economic development to response job market demands from year 2030-2050.

For more information please visit STEM Policy attached.



STEM at Basic Education



STEM at Basic Education



New Generation Schools

STEM at Higher Education

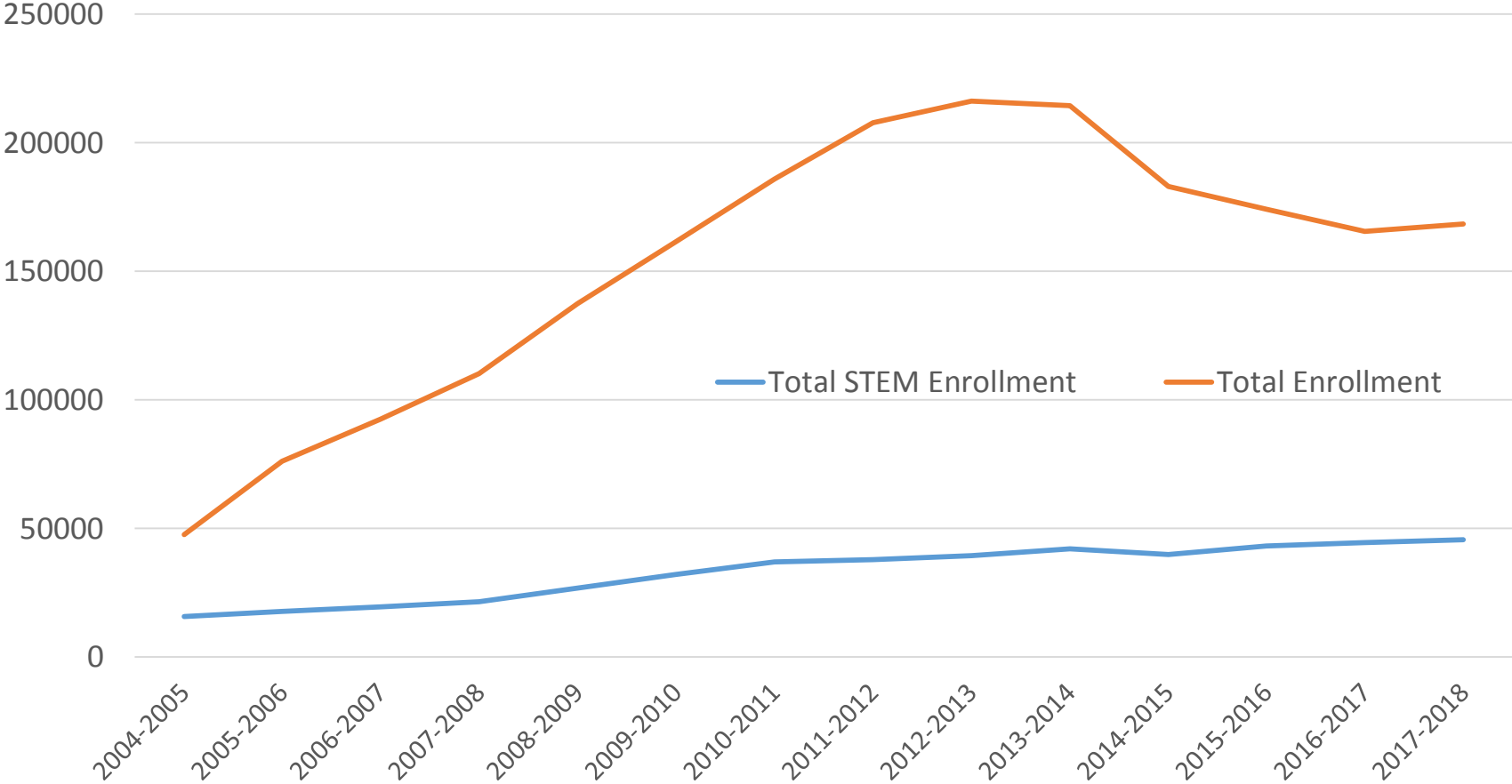


ITC (Institute of Technology of Cambodia)

More investment on STEM with the Higher Education Improvement Project (HEIP) 2018-2024, 92M\$, WB

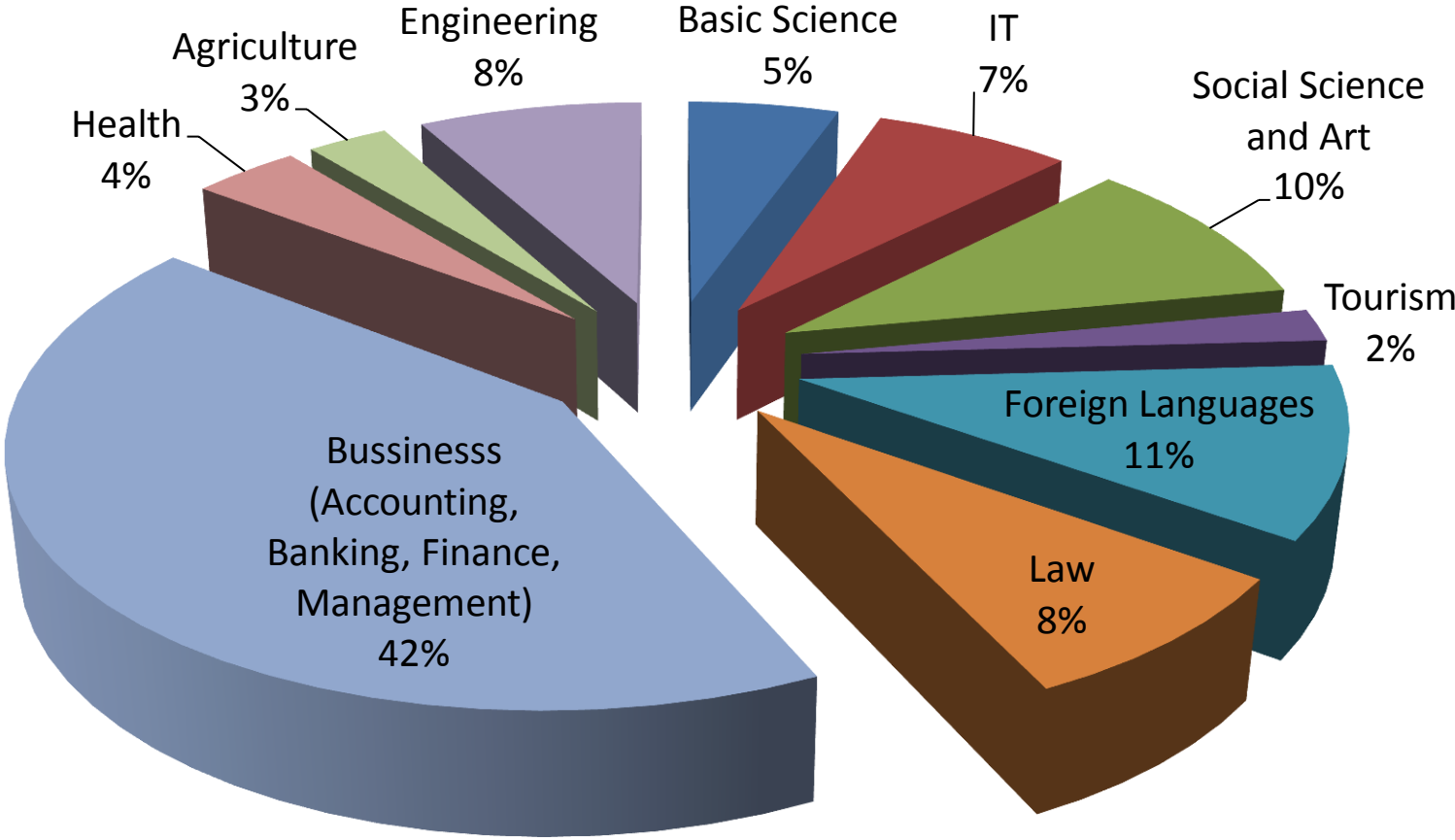
STEM at Basic Education

Higher Education Enrollment



STEM at Higher Education

Higher Education Enrollment



Enrolled Student at Bachelor Degree by Sector for Academic Year 2017-2028

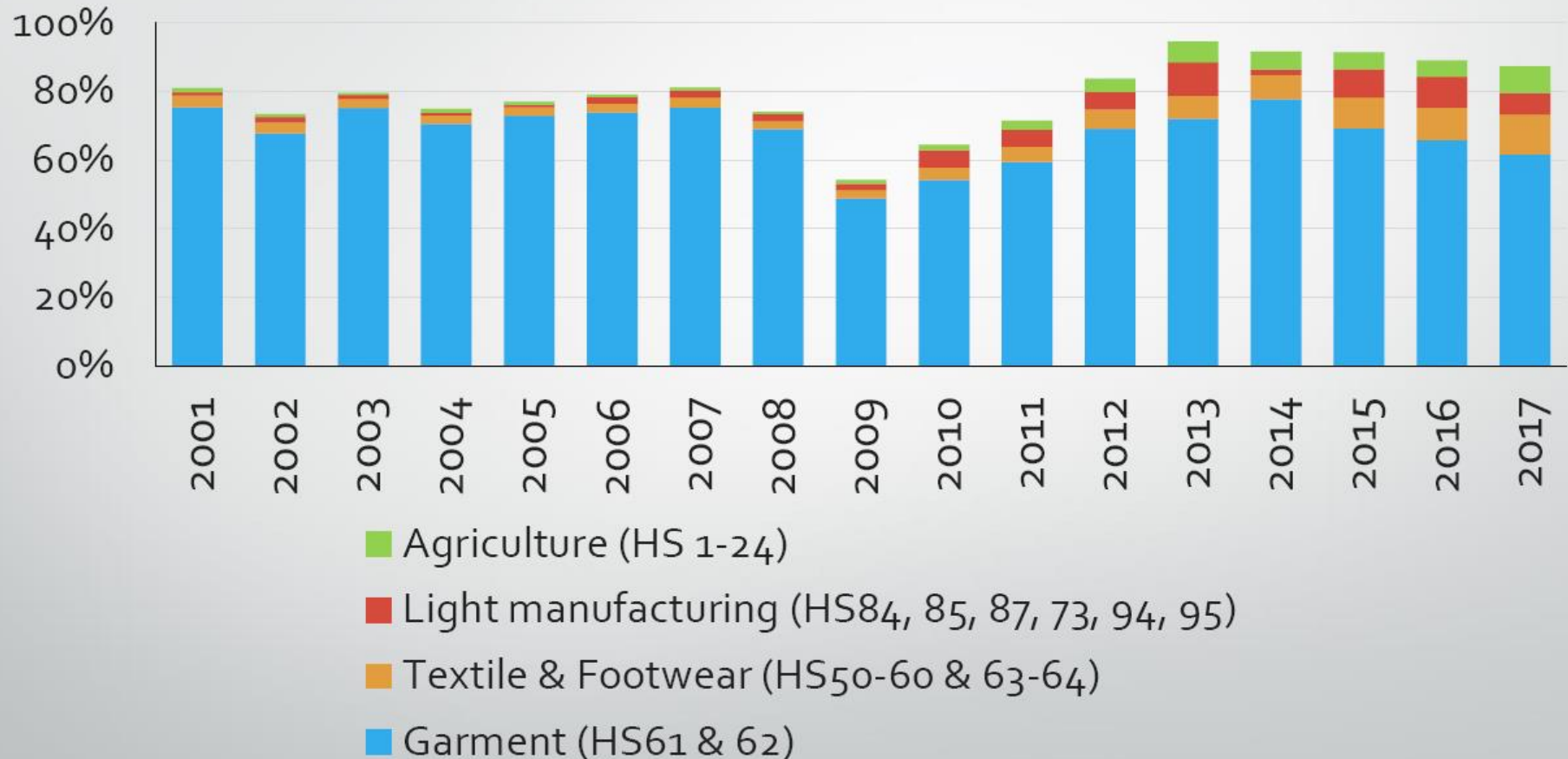
Industrial Development Policy 2015-2025

To ensure the economic growth in the rate of 6-7%/year, Cambodia needs 36000 Engineers and 48000 Technicians (2012-2018)

Industrial Development Policy:

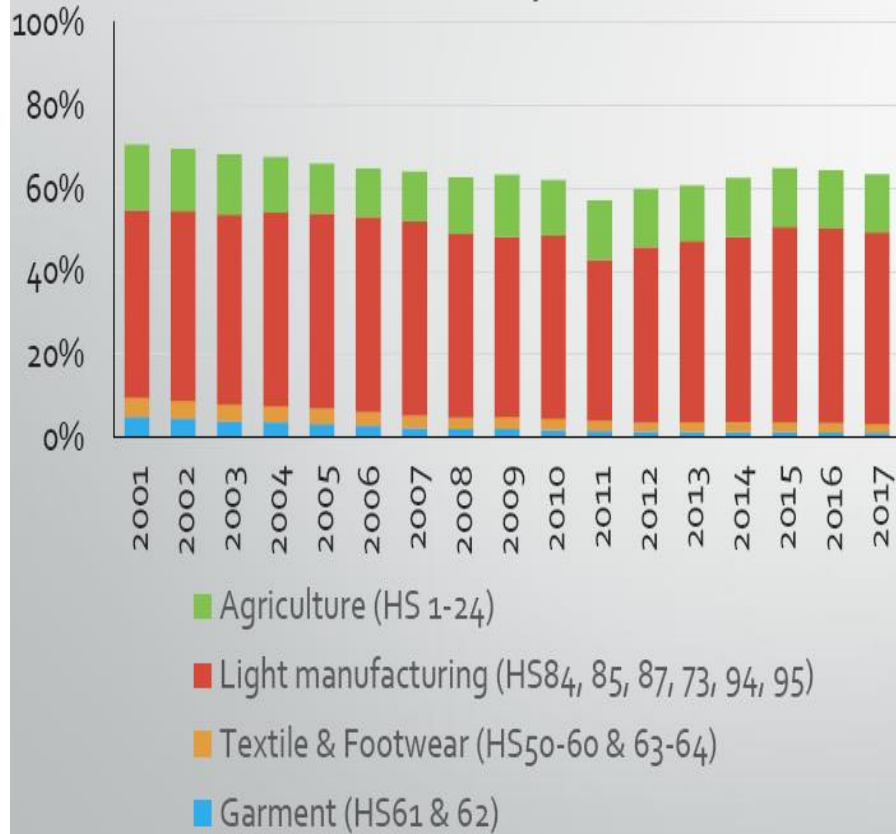
- ❖ Increase the industrial contribution to 30% in GDP Share in 2025 which the manufacturing share will increase to 20% in 2025.
- ❖ Increase the export of the manufacturing products with non garment industry of up to 15% in total export share in 2025, and also increase the export of processed agricultural products of up to 12% in the total export share in 2025

Export diversification

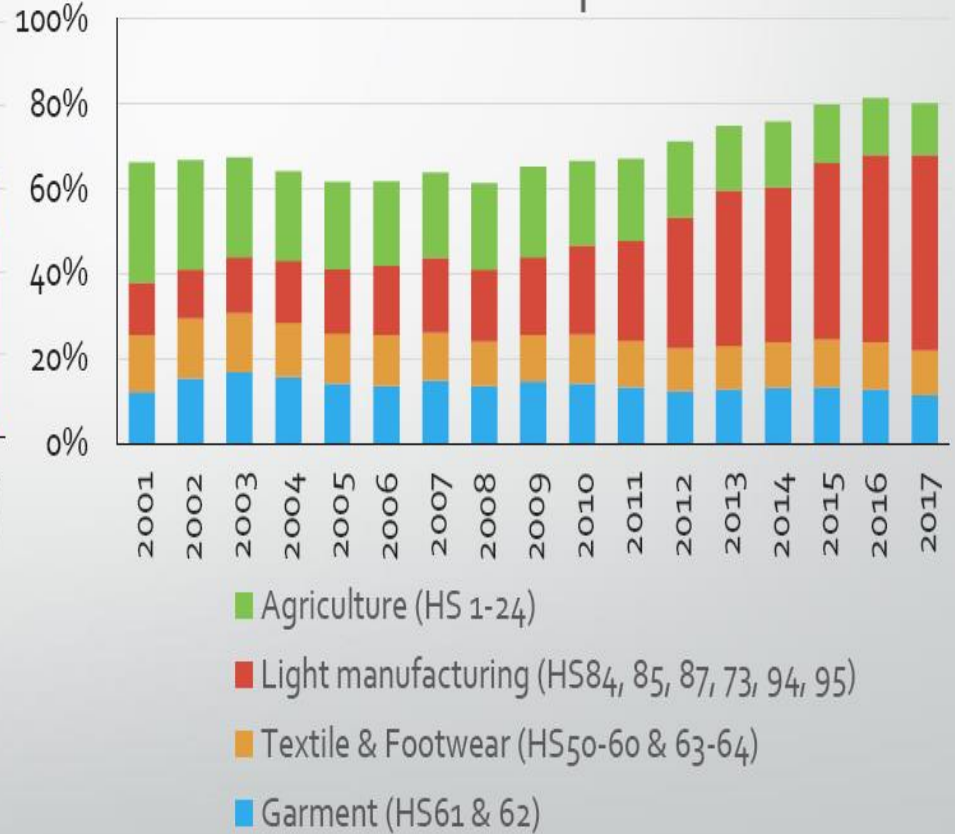


STEM at Higher Education

Thailand's Exports



Vietnam's Exports



Skills: Skill Diversification, Productivity

Infrastructure: Digitalization, Transportation/Logistics, Utilities

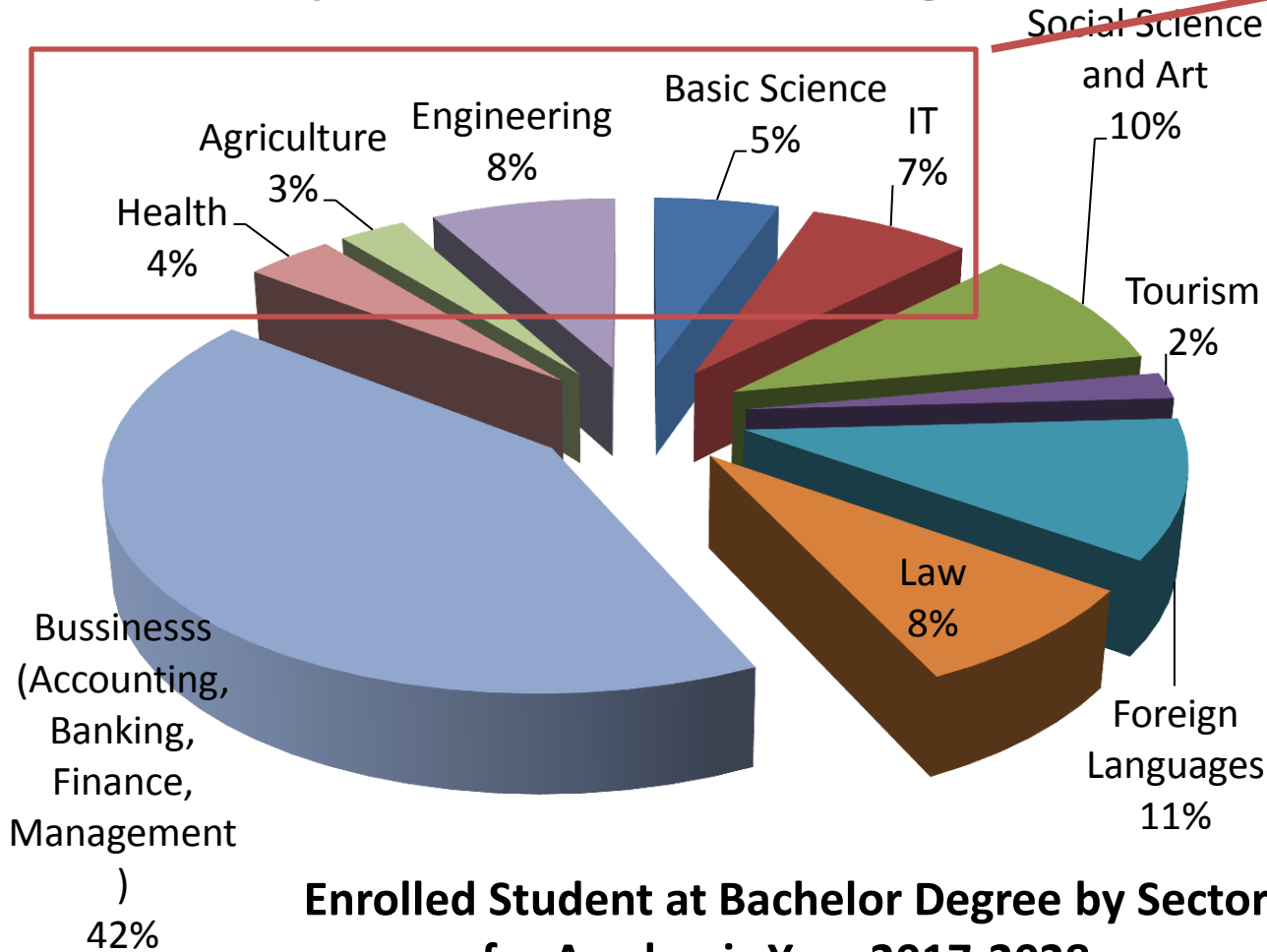
(Energy, Water,..)

Transformation: More Value Added Manufacturing

Industries: Diversifications

- **Construction Engineering and Materials,**
- **Machine Parts, Electronics, Agro-Industries**

Skill Gap and Skill Shortage



Enrolled Student at Bachelor Degree by Sector for Academic Year 2017-2028

Increased by 1%/year compared to baseline 27% in 2017-2018

Skill Shortage

Improve the quality of STEM Education

Skill Gap

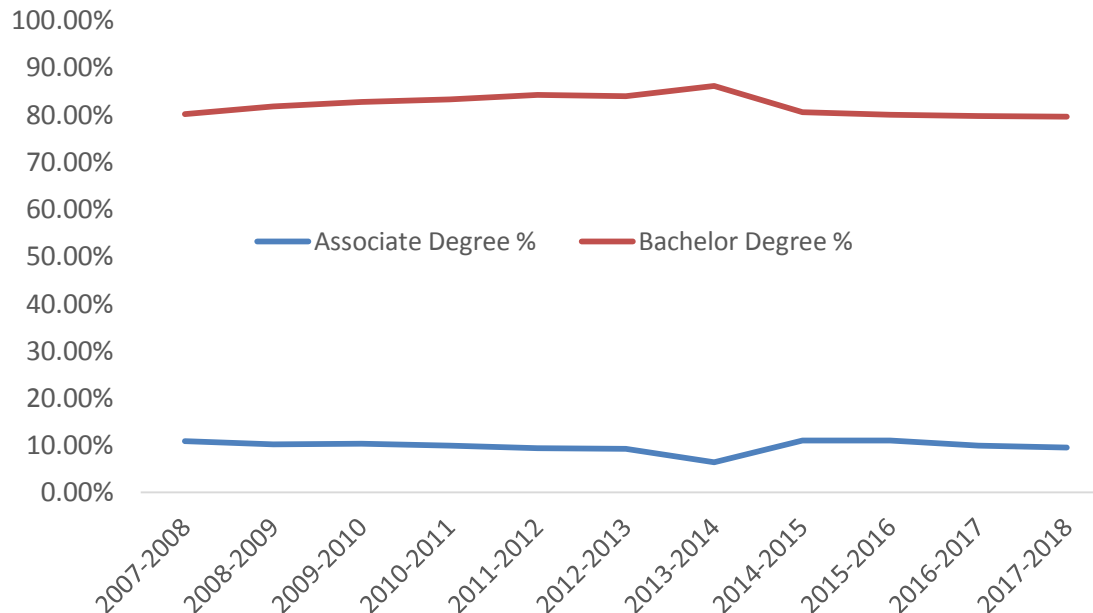
Improving Skill Gap in HEIP

- **Improving on T&L (New Programs, Curriculums->OBE, Teachers, Equipment and Infrastructure)**
- **Improving on R&D (Graduate Programs, Linkage with industry and policy)**
- **Improving on Governance (Quality Assurance and Accreditation, Other preparations toward to be autonomous university)**

STEM at Higher Education

Increase TVET Enrollment

Technicians	Engineering
Programs: 2 Years (12+2)	Programs: 4 Years (12+4)
Jobs: Machine Operations, Assembly Line Controller, Production, Construction	Jobs: Design and Construction, Quality Control, Management, Improvement,..



Promotion

How to make the programs becoming attractive?

-> Employability

-> Professionalism

- BEC, ...

-> Regional Mobility (FEIAP)

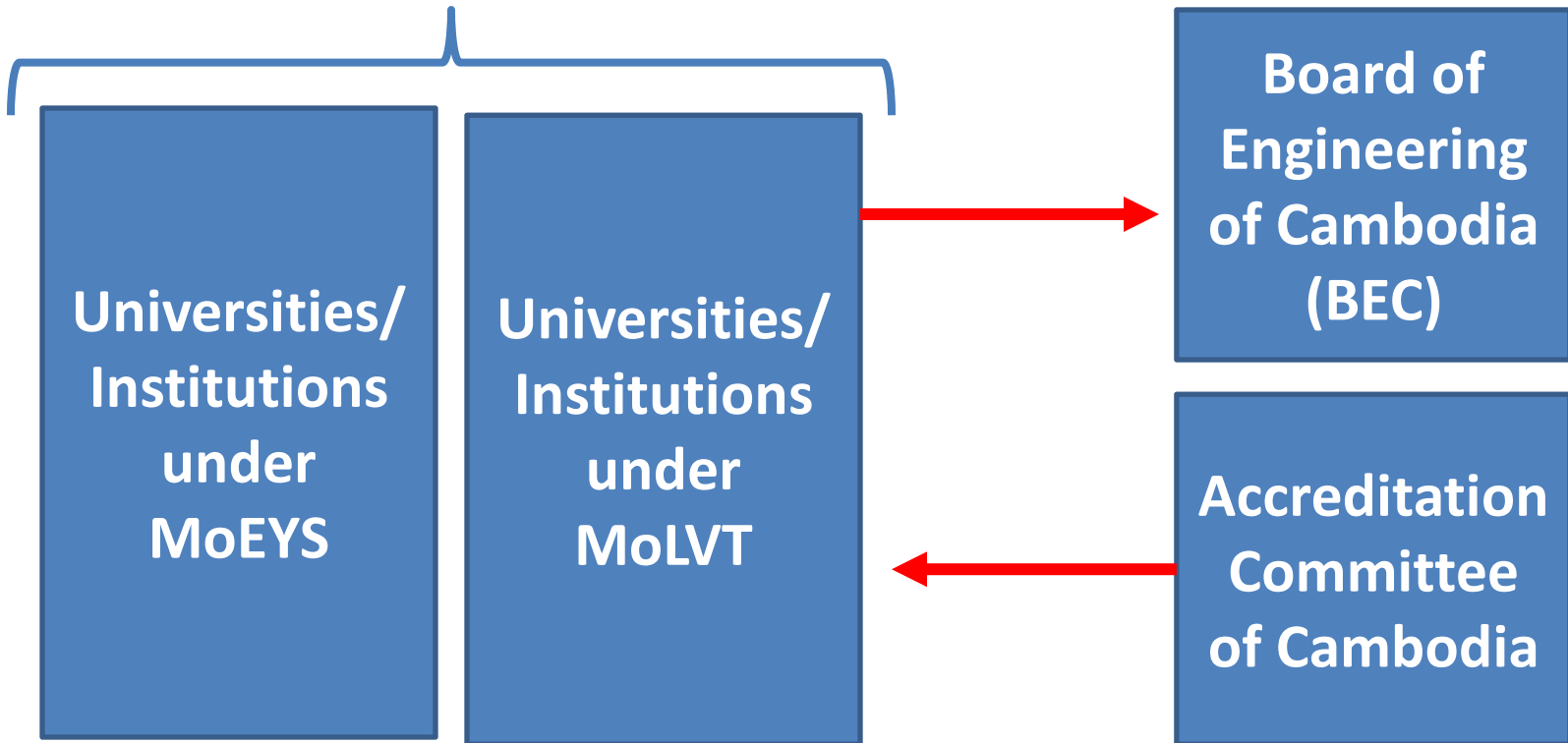
Qualification of Engineering

ASEAN	CAMBODIA
Minimum 120 credit hours (135 SLT) of which 80 credit hours (90 SLT) must be engineering courses	ITC is up to 150 Credits > Minimum 120 credit hours. All bachelor programs needs minimum of 120 credits (CQRF)
Normally offered over 5-6 years	4-5 years
Final year project (6 CH)	Yes
Industrial training (8 Weeks)	3 months
Integrated Design Project	Yes
Minimum of 8 full-time academic staff	Yes
Staff:student ratio is 1:20 or better	Still high, but going to reduce due to new classroom construction
External examiner's report	Accreditation Committee of Cambodia
Programme Objectives, outcomes	-> OBE

Qualification Framework and Accreditation (E&T)

Improvement and recognition

Qualification Framework (8 Levels)



Thank you for your attention