Water Pollution Prevention and Control of Myanmar

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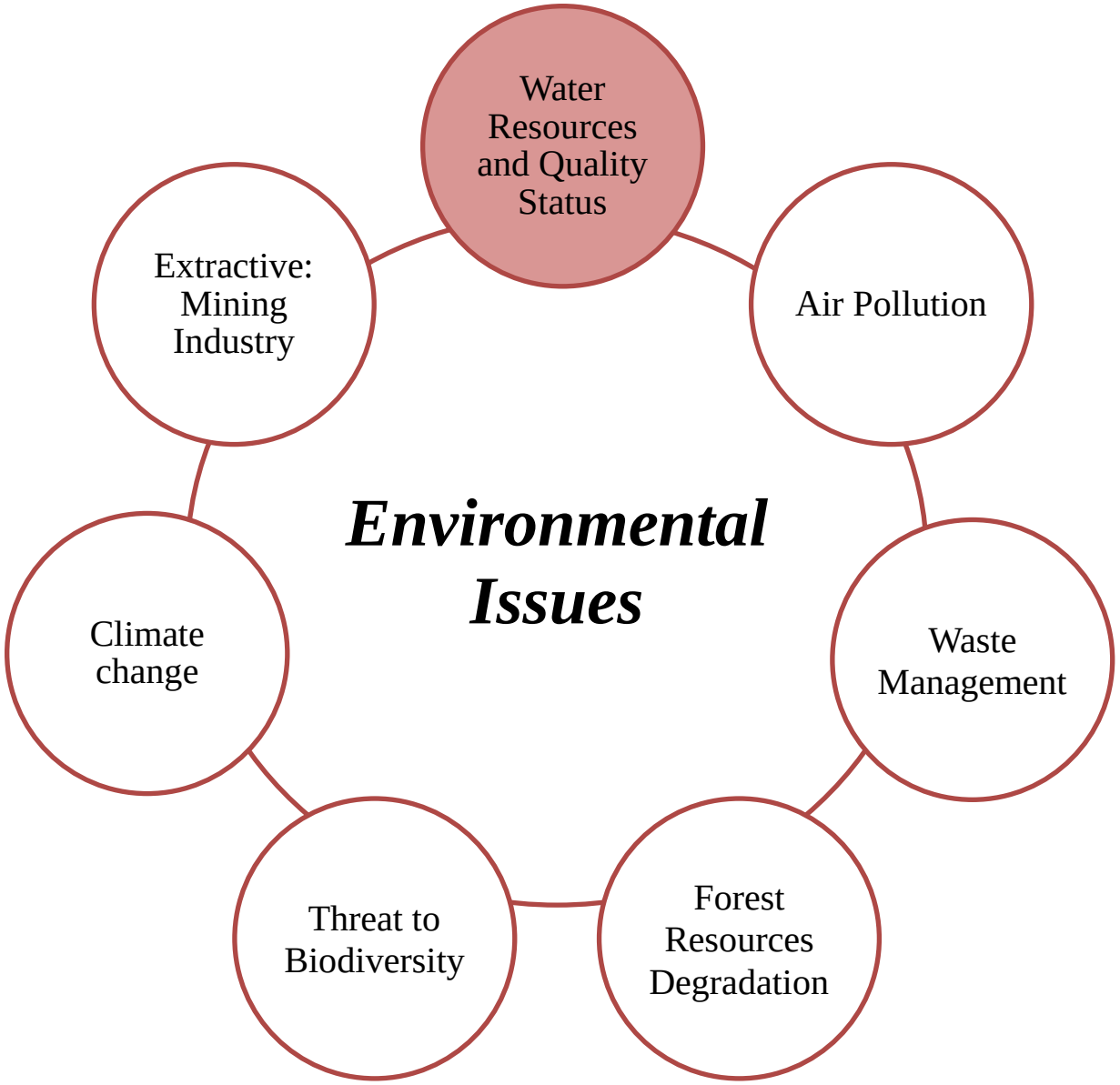
Background

- Myanmar has been facing considerable challenges in the management of the environment due to increasing domestic and foreign investments in the industrial and urban and rural development sectors.
- Water Pollution Prevention and Control is one of the main concerns for the development.

Areas of Environmental Issues



Current Situation

Impact to the environment and human health

Challenge for Environmental Conservation and Future Generations

Surface Water Pollution Problems

Causes

(1) Climate Change

(2) Discharging wastewater from Industries without any treatment

(3) Discharging wastewater from households in the urban areas

(4) Low limit Dissolved Oxygen

Some Wastewater Pollution Problems

Causes - Discharging wastewater from dying process to the nearest environment without any treatment

- Long Term Consequences
  - (1) Environment
  - (2)Groundwater and water supply
  - (3) Human Health

Water Pollution Prevention and Control Activities
by Environmental Conservation Department,
Ministry of Natural Resources and Environmental Conservation

Regulations related Water Pollution and Control

Environmental Conservation Law - ECL (2012)

Environmental Conservation Rules - ECR (2014)

Environmental Impact Assessment (EIA) Procedure (2015)

National Environmental Quality (Emission) Guidelines – EQEG (2015)

Myanmar National Water Policy

- Myanmar National Water Policy was adopted in August, 2015.
- It is aiming to take cognizance of the existing situation, to propose a framework for creation of a system of laws and institutions and for a plan of a action with a unified national perspective including the Myanmar National Water Framework Directive.

Environmental Quality Standards

Article 10. of ECL (2012)

Stipulate the following environmental quality standards:

(a) suitable **surface water quality standards** for the usage in rivers, streams, canals, springs, marshes, swamps, lakes, reservoirs and other inland water sources of the public;

(b) water quality standards for coastal and estuarine areas;

(c) underground water quality standards;

(d) atmospheric quality standards;

(e) noise and vibration standards;

(f) emission standards;

(g) effluent standards;

(h) solid waste standards;

(i) other environmental quality standards stipulated by the Union Government

Environmental Pollution Control

Article 14.

A person causing a point source of pollution shall treat, emit, discharge and deposit the substances which cause pollution in the environment

Article 15.

The owner or occupier

shall install or use an on-site facility or controlling equipment in order to monitor, control, manage, reduce or eliminate environmental pollution.

Article 16.

Industrial estate & SEZ **to contribute payment and to follow directives**

(1) Regulations for Water Pollution Control and Enforcement

National Environmental Quality (Emission) Guidelines (December, 2015)

Current Situation – Formulating the National Environmental Quality Standards

Waste Water Parameters and Guideline Values of National Environmental Quality (Emission) Guidelines

Parameter	Unit	Guideline Value
5-day Biochemical oxygen demand	mg/l	50
Ammonia	mg/l	10
Arsenic	mg/l	0.1
Cadmium	mg/l	0.1
Chemical oxygen demand	mg/l	250
Chlorine (total residual)	mg/l	0.2
Chromium (hexavalent)	mg/l	0.1
Chromium (total)	mg/l	0.5
Copper	mg/l	0.5
Cyanide (free)	mg/l	0.1
Cyanide (total)	mg/l	1
Fluoride	mg/l	20
Heavy metals (total)	mg/l	10
Iron	mg/l	3.5
Lead	mg/l	0.1
Mercury	mg/l	0.01
Nickel	mg/l	0.5
Oil and grease	mg/l	10
pH	S.U.[a]	6-9
Phenols	mg/l	0.5
Selenium	mg/l	0.1
Silver	mg/l	0.5
Sulphide	mg/l	1
Temperature increase	° C	<3[b]
Total coliform bacteria	100 ml	400
Total phosphorus	mg/l	2
Total suspended solids	mg/l	50
Zinc	mg/l	2

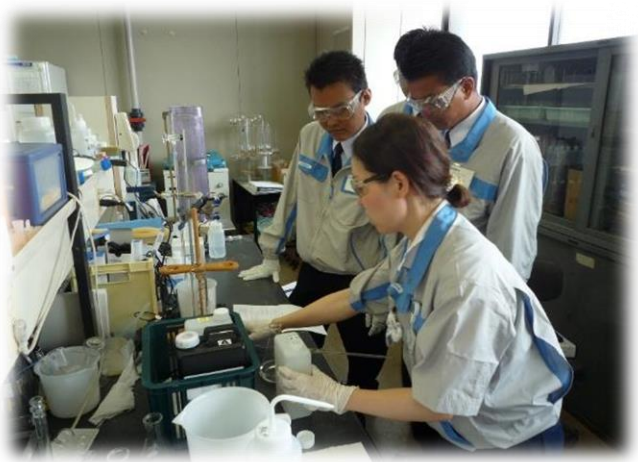
(2) Water Quality Monitoring

(3) Inspection to Polluted Areas

(4) Sharing Treatment Methods

(5) Fulfilling the equipment for Environmental Laboratory in ECD, MONREC

(6) Capacity Building for Water Environmental Management



International Cooperation

- **The Project for Capacity Development in Basic Water Environment Management and EIA System in Myanmar**

➢ Cooperation with JICA

- **Wastewater Treatment Project at Wundwin Township**

➢ Cooperation with HORIBA., Ltd, Japan

- **National Environmental Quality Standards Formulation**

➢ Cooperation with Asian Development Bank

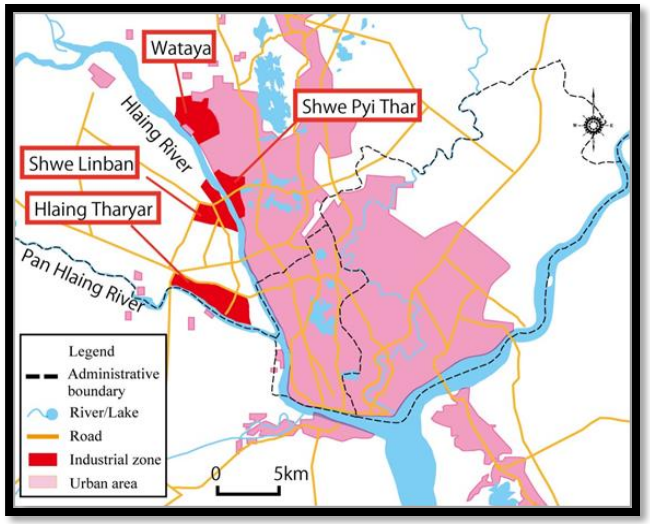
- **Continuous Monitoring System and Environmental Laboratory Establishment**

➢ Cooperation with HORIBA., Ltd, Japan

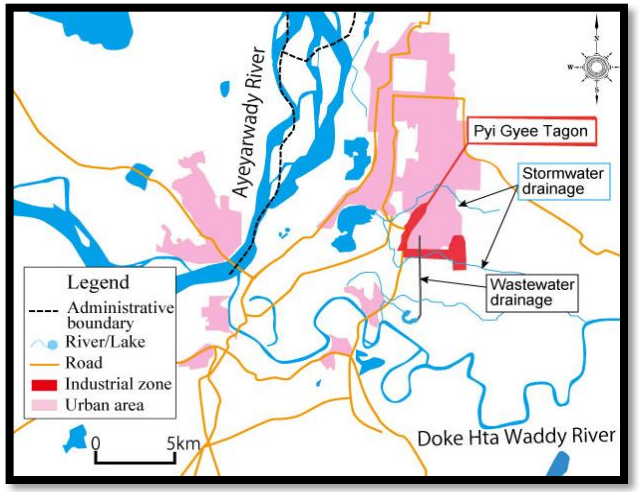
International Cooperation (Contd.,)

"The Project for Capacity Development in Basic Water Environment Management and EIA System in Myanmar"

- **Cooperation with JICA**
- **Project Duration – 3 yrs (2015 – 2018)**
- **Technical Cooperation**
- **Project Areas**
  - Hlaing River Basin, Rangoon
  - Doke Hta Waddy River Basin, Mandalay



Hlaing River Basin (Yangon)



Doke Hta Waddy River Basin (Mandalay)

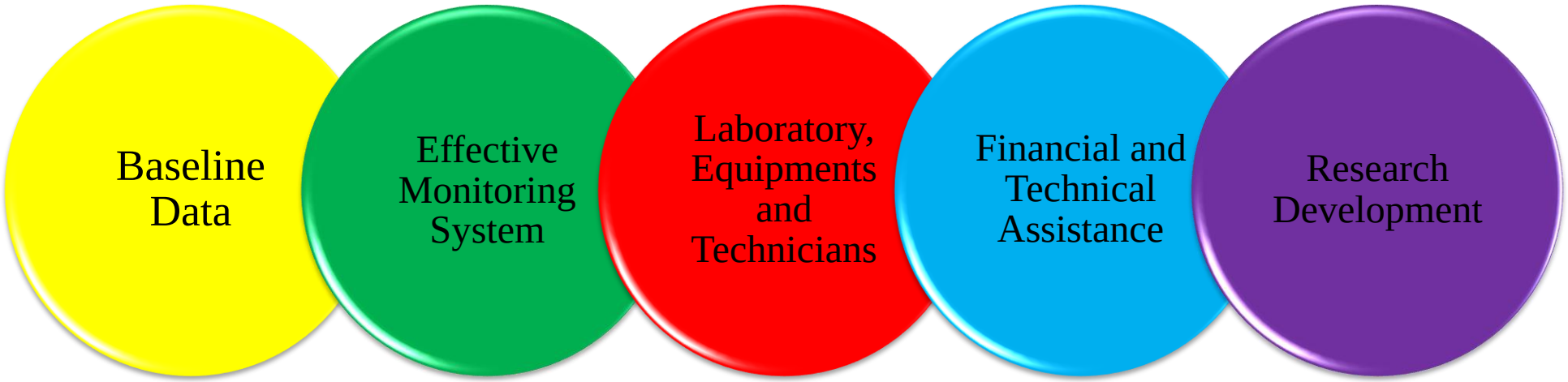
International Cooperation (Contd.,)

"Project for Local Demonstration Test (Facilities Installment) for Wastewater Pollution by Untreated Dye Water in Wun Dwin Township, Mandalay Region"

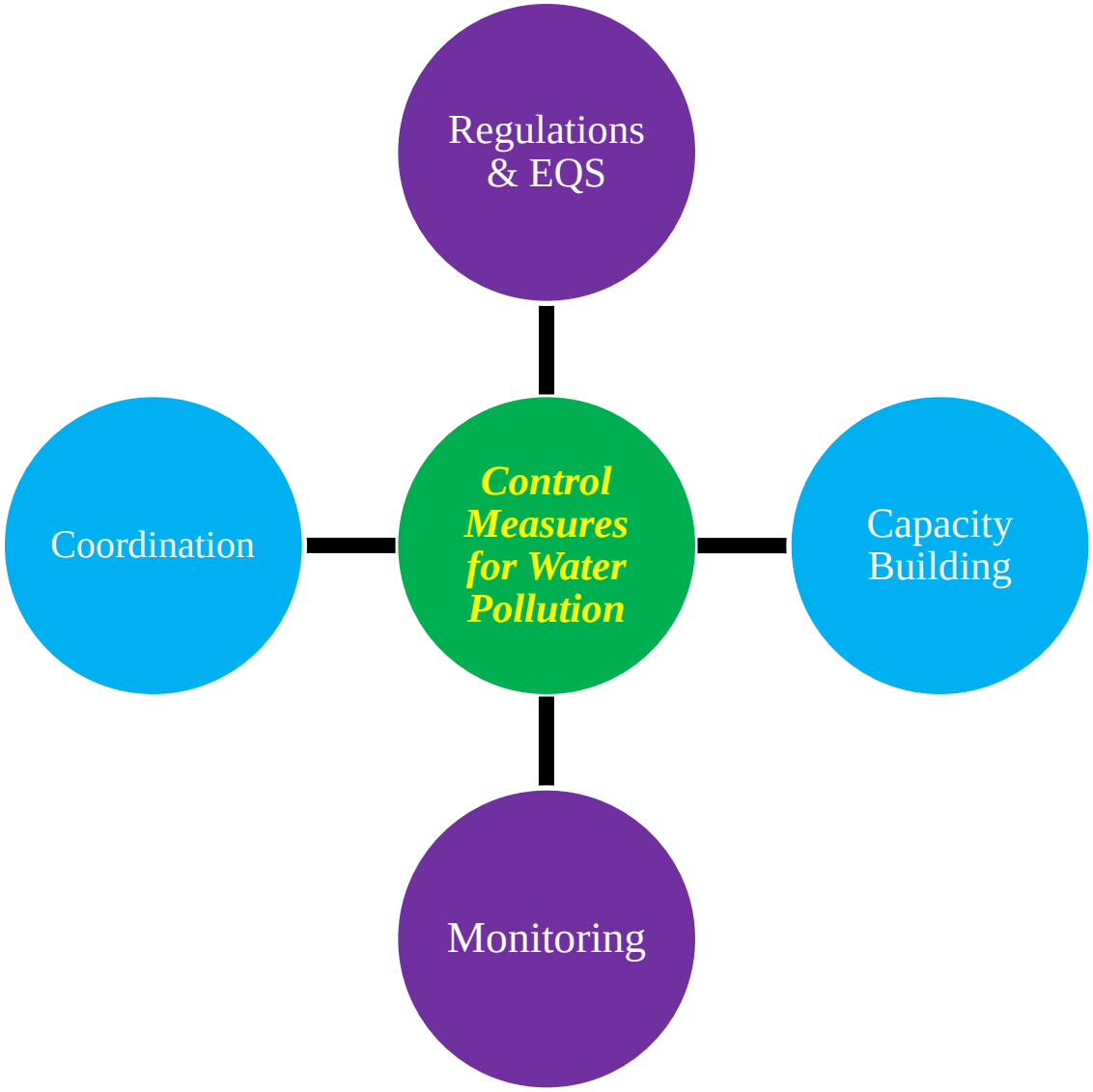
- **Cooperation with HORIBA, Ltd., Japan**
- **Project Duration – 2 yrs & 6 months (2015 – 2018)**
- **Technical Cooperation**

Challenges for Water Pollution Prevention and Control

Needs for Water Environmental Management



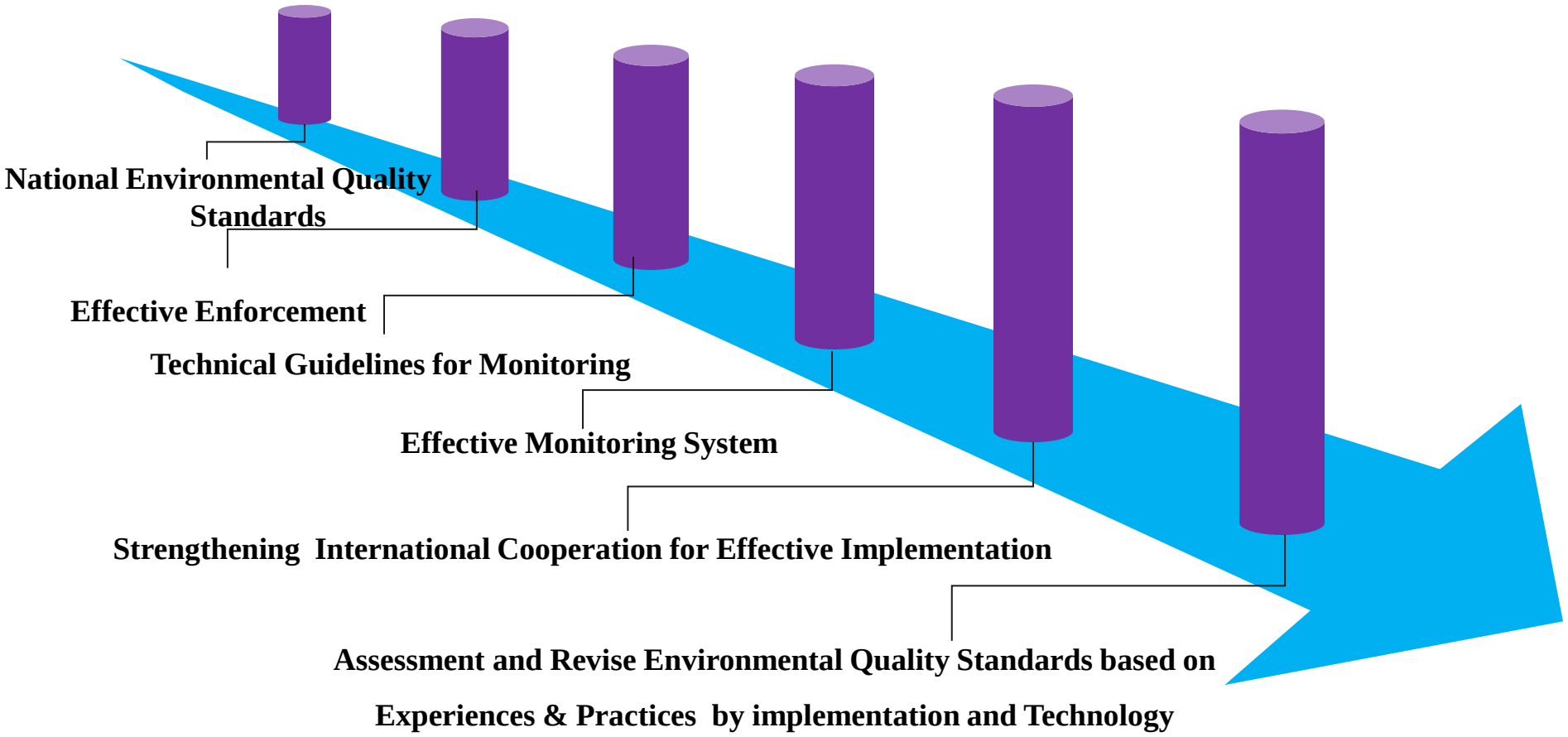
Control Measures for Water Pollution



Other Control Measures for Water Pollution

Persuasion	• **Changing pollution behavior by Education**
Regulations	• **Formulation the regulations for reducing the pollution**
Incentives	• **Reward behavior that reduce pollution (e.g – tax incentives)**

Way Forward for Water Environmental Management



Conclusion

- Due to limited facilities and lack of technologies at the same time, increasing population and industries in water management will be the big issue causing pollution and health problems.
- Myanmar has to take into account the international best practices and experiences to formulate the regulations and management for water pollution prevention and control.

Thank You!

“Let’s Think Globally and Act Locally for the protection of Environment and Human Health”