Pollution Control

Environmental Conservation Department
(Yangon Region)
Contents

• Environmental Pollution Issues
• Background History of Environmental Conservation Department
• Environmental Related Laws
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Environmental Issues:
Over-use of Natural Resources

Highly rely on exploitation of Natural resources

Infrastructure Development: Dam, Highways, Urbanization, land use change

Ecosystem and environmental resources degradation, lost of habitat and biodiversity

Climate change
Environmental Issues: Industrialization

- Increasing Investment from Natural resource based to industrial based economy
- Heavy Industrial development, Special economic zone
- Environmental pollution
Air pollution

Causes

- Toxic substances in the air
- Emitted from power stations, industry and vehicles
- The growth in population and human settlement
- Industrial expansion
- Rise in transport vehicles
- Escalating construction activities
- Major type of transportation
- Meteorology and topographical characteristics
- Thermal power stations (both oil and gas-fired)
- Opening burning and forest fires
UNCONTROLLED EMISSIONS FROM FACTORIES
Fukushima Nuclear Disaster
Major pollutant matters

- Carbon monoxide
- Ozone
- Nitrogen oxide
- Sulfur Dioxide
- Suspended particulates
- Lead
Forest Fires and Transboundary Haze Pollution
Victoria Wildfires, Australia February 2009

Overall losses: US$ 1,300m*
Fatalities: 173

Source: Reuters, Berlin
The effect of Air pollution

- Health
- Global warming
- Climate change
- Acid Rains
- Ozone depletion
Water pollution

Causes and sources

• Chemicals used in agriculture

• Pollution of rivers, lakes, coastal water and soil resulting from toxic industrial wastes dumped by industries.
Water Pollution
Flood water mixed with drinking water
Land pollution (Waste)

- Land is usually the final receptor of solid waste generated by human activities.
- There are wastes generated by various manufacturing industries that are not identified separately from municipal solid wastes coming from domestic and commercial activities.
- These include waste paper, plastics and packaging materials, housekeeping wastes, food wastes from the factory’s cafeteria, scrap glass, rubber, ceramic and other materials and other off-specification materials that are discarded with office wastes.
- Hazardous wastes are also generated by agricultural activities from the use of pesticides and herbicides.
- Hazardous wastes are also produced by non-industrial sources like domestic households and hospitals.
• Domestic households routinely discard waste paints and flammable solvents, caustic cleaners, batteries and mercury from broken thermometers.

• Hospitals produce and discard wastes contaminated with blood and tissue wastes, used needles, scalpels and broken glass wares, expired and unused drugs, and chemical and radioactive isotopes wastes.

• These materials are hazardous because they pose substantial or potential threats to public health or the environment.

• They have the characteristics of ignitability, corrosivity, reactivity (explosive) and toxicity.
Waste Problems
INDISCRIMINATE DUMPING OF SOLID WASTE

INDISCRIMINATE DUMPING OF TOXIC WASTE
Land Pollution and Soil Degradation
Persistent Organic Pollutants (POPs)

POPs are synthetic chemicals such as:

- Pesticides
- Industrial chemicals
- Unwanted industrial by-products that are harmful to humans and the environment
Characteristics of POPs

# Persistance – POPs resist degradation in air, water, sediments, and organisms

# Bio-accumulation – they accumulate in living tissues

# Potential for long-range transport – potential to travel great distances
Persistent Organic Pollutants (POPs) continued...

Effects of POPs on human health

- Damage to the nervous system
- Birth defects
- Damage to the immune system
# The First 12 POPs

<table>
<thead>
<tr>
<th>Pesticides</th>
<th>Industrial Chemicals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aldrin</td>
<td>Polychlorinated Biphenyls (PCBs)</td>
</tr>
<tr>
<td>Chlordane</td>
<td>Hexachlorobenzene (HCB)</td>
</tr>
<tr>
<td>DDT</td>
<td></td>
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<tr>
<td>Dieldrin</td>
<td>Unintended by-products</td>
</tr>
<tr>
<td>Endrin</td>
<td>Dioxin</td>
</tr>
<tr>
<td>Heptachlor</td>
<td>Furan</td>
</tr>
<tr>
<td>Hexachlorobenzene</td>
<td>(PCBs) &amp; (HCB)</td>
</tr>
<tr>
<td>Mirex</td>
<td></td>
</tr>
<tr>
<td>Toxaphene</td>
<td></td>
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</tbody>
</table>
The new 9 POPs

Pesticides
- Chlodecone
- Alpha hexachlorocyclohexane
- Penta chlorobenzene
- Lindane
- Pentabromodiphenyl ether

Industrial Chemicals
- Hexabromobipheny
- Hexabromobiphenyl ether and heptabromodiphenyl ether
- Penta chlorobenzene
- Tetrabromodiphenyl ether and Pentabromodiphenyl ether
- Perfluorooctane sulfonate

Unintended by-products
- Alpha hexachlorocyclohexane
- Beta hexachlorocyclohexane
- Penta chlorobenzene
Background History of ECD

• National Commission for Environmental Affairs (NCEA) was formed in 1990 and abolished by the new government in 2011.

• National Environmental Conservation Committee (NECC-2004) was reformed to Environmental Conservation Committee (ECC) in 2011.

• Ministry of Forestry was reformed to the Ministry of Environmental Conservation and Forestry (MOECAF) by the new government in 2011.

• Environmental Conservation Department (ECD) in October 2012.
Ministry of Environmental Conservation and Forestry (MOECAF)

Planning & Statistics Dept.
Forest Dept.
Myanmar Timber Enterprise
Environmental Conservation Dept.
Dry Zone Greening Dept.
Survey Dept.
Environmental Conservation Department (ECD)

- Administration (11 + 36)
  - Admin
  - Budget
- Policy, Int. Relation, Res. and Training (13 + 11)
  - Policy & Planning
  - Int. Relation / Res & Ext.
- Pollution Control (11+9)
- Natural Resources & EIA (12+9)
  - Natural Res. Cons.
  - EIA
- State & Region (107+182)
  - EIA
  - EQS
  - Urban and Rural
  - Industries

Total: 156 + 247
Mandate of Environmental Conservation Department (ECD)

- To implement National Environment Policy
- To develop short, medium and long term strategies, frameworks, action plans for the integration of environmental conservation into the national development process.
- To manage natural resources conservation and sustainable utilization
- To manage the pollution control on air, water, land including waste management.
- To cooperate with government organizations, civil society, private and international organizations concerning with environmental management
Environmental Policy and Strategies

- Environmental Policy (1994)
- Myanmar Agenda 21 (1997)
- Environmental Conservation Law (2012)
- Environmental Conservation Rules (June 2014)
- Procedures for Environmental Impact Assessment (2013, Drafted)
- National Environmental Quality Standard (still ongoing process)
- Environmental Quality Standard Guideline (still ongoing process)
Formulation of Environmental Quality Standards

Environmental Conservation and Management

- Natural Resources Conservation and Management
- Environmental Quality Control and Enhancement
Environmental Law:
Environmental Quality Standards

The Ministry may, with the approval of the Union Government and the Committee, stipulate the following environmental quality standards:

- (a) suitable surface water quality standards in 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;
Environmental Quality Standards

- (d) **atmospheric** quality standards;
- (e) **noise** and vibration standards;
- (f) **emissions** standards;
- (g) **effluent** standards;
- (h) **solid wastes** standards;
- (i) other environmental quality standards stipulated by the Union Government.
Environmental Conservation Law: A Comprehensive Monitoring System

The Ministry shall, under the guidance of the Committee, maintain a comprehensive monitoring system and implement by itself or in co-ordination with relevant Government departments and organizations in the following matters:

(a) the use of agro-chemicals which cause to impact on the environment significantly;

(b) transport, storage, use, treatment and disposal of pollutants and hazardous substances in industries;
Environmental Conservation Law: A Comprehensive Monitoring System

(c) disposal of wastes come out from exploration, production and treatment of minerals, industrial mineral raw materials and gems;

(d) carrying out waste disposal and sanitation works;

(e) carrying out development and constructions;

(f) carrying out other necessary matters relating to environmental pollution.
Causing to lay down and carry out a system of environmental impact assessment and social impact assessment as to whether or not a project or activity to be undertaken by any Government department, organization or person may cause a significant impact on the environment;
Environmental Rules:
Environmental Standards

38. The Ministry:

(a) may determine, with the approval of the Union Government and the Committee, by notification, the environmental quality standards contained in sub-section (d) of section 7 and section 10 of the Law for conservation and enhancement of environment for the whole country, or for any area or urban or rural area, river, stream, lake, or any part of them;

(b)(b) may coordinate and cooperate as necessary with the relevant Government departments, Government organizations, Nay Pyi Taw Council, Region or State Governments, City Development Committees, local development committees and non-governmental organizations in determining the environmental quality standards under sub-rule (a);
Environmental Conservation Rules: Environmental Quality Standards

(c) may alter or amend such determination under sub-rule (a), as may be necessary, for the interest of the public according to the time and location;

(d) may carry out, as may be necessary, for the observance of and carrying out the stipulations for environmental quality standard issued under sub-rule (a), by the public in addition to the relevant Government departments, Government organizations.
Urgent needs:

Formulation of **Environmental Impact Assessment (EIA) Procedures** and **Environmental Quality Standards and Guidelines** to control environmental quality and enhancement:

- To minimize environmental impacts of development project
- To monitor environmental quality particularly in Industries, Mining, Municipal and its surrounding
Formulation of EIA Procedures

- EIA procedures is drafted included the project type which are required to conduct EIA and IEE.
- The projects in sectors required to do EIA are notified by MIC dated 31st Jan, 2013
Current Activities for Pollution Control and Waste Management

- The Development of National and City Level Waste Management Strategy funded by UNEP-IETC (under discussion), 2014-2015
- The project for Capacity Development and Basic Water Environmental Management and EIA System in Myanmar (ECD + YCDC+ MCDC +JICA)
- Myanmar-Norway Cooperation on Chemicals and Hazardous Wastes (under discussion), 2014-2018
  - National Environmental Quality Standard is now in the preparation stage in cooperated with the Ministry of Science and Technology
  - Environmental Quality Standard Guideline is now formulating by ECD with technical assistance of ADB and EU (Environment al Management Group)
V. Gaps and Challenges

Specific Rules, Regulation and Guidelines

Waste Management and National Waste Management Strategies Frameworks Formulation

Effective Monitoring Systems

Advanced Technologies

Coordination Mechanism and Institutional Strengthening

Party of Basel, Rotterdam and Mercury

Financial Mechanism
The way forward

- Formulate National Waste Management Strategic Policy Framework
- Develop National Waste Management Rules and Regulations
- Develop Sectoral Waste Management Regulation and Guidelines
- Promote Green Investment in Waste Sectors
- Formulate Environmental Quality Standards
- Identify Priority Waste Issues and Action Plan
- Promote Technology
- Promote people participation through Environmental Awareness and Education Programme
- Promote regional level and international level cooperation
- Strengthen institution and the capacity building, and also the coordination mechanism
Thank you