

**Workshop on Environmental Statistics for the
South-East Asian Countries
5th ~7th December 2011
Hanoi, Vietnam**

**Contry Report on
Environmental Statistics of Myanmar**

Ms Khin Than
Staff Officer
Central Statistical Organization
Ministry of National Planning
and Economic Development

Ms Khin Mar Yi
Assistant Director
Central Statistical Organization
Ministry of National Planning
and Economic Development

Mr Sein Htoon Linn
Director
Forestry Statistics and Planning
Ministry of Environmental
Conservation and Forestry

CONTENTS

- Introduction
- Background for Environmental Conservation
- Environmental Priorities and Challenges
- Data Assessment and Strengthening of Database Management
- Conclusion

Introduction

- Myanmar is vested with variety natural ecosystems that provided the country with rich natural resources.
- Land and Water resources effectively, energetic efforts are being made for accelerating the momentum of success in agriculture, industrial, livestock and fisheries sector in order to bring about national economic development.
- Myanmar has been implementing the programmes on natural resource and environmental accounting under the guidelines of the National Environment Policy.
- In recent years environmental accounting has become at the forefront of national action programmes.

3

Introduction

- Myanmar National Environmental Performance Assessment (EPA) Report 2009 under the ADB-funded SEF-III project, is developed by updating previous EPA 2006 of SEF II plus new products such as more indicators and special concern.
- EIA evaluates systematically the outputs of environmental policies and measures undertaken over a specific period. It is the policy and management tool to measure degree of success in achieving national environmental targets.
- Based on broad participation and consultation of stakeholders in successive national workshops, and policy guidelines of National Environmental Policy (1994), Myanmar Agenda 21 (1997) and National Sustainable Development Strategy - NSDS (2009), seven environmental concerns in order of priority are selected for EPA Report 2009.

4

Introduction

- All concerns except forestry concern in EPA Report 2009 were dealt with P-S-R model in which interrelated indicators were chosen to capture the “State” (S) of the concern being studied, the underlying “Pressures” (P), and the “Responses” (R) intended to counter the pressures and lead to an improvement of the situation. The most imperative concern - forest resources, is conducted through D-P-S-I-R model with two additional indicators namely, “Drivers” (D) and “Impacts” (I).

5

Background for Environmental Conservation

- National Commission for Environmental Affairs (NCEA) was established in 1990
- Adopted Myanmar Environment Policy in 1994
- Formulated Myanmar Agenda 21 in 1997
- Formulated National Sustainable Development Strategy (NSDS) in 2009

6

Environmental Priorities and Challenges

- Seven environmental concerns in order of priority:
 - (1) Forest resources
 - (2) Water resource and quality status
 - (3) Land degradation
 - (4) Climate change
 - (5) Inadequate solid waste management
 - (6) Threat to biodiversity
 - (7) Impacts of mining industry on environment

7

Environmental Pririties and Challenges

Priority Concern I : Forest Resources

- D-P-S-I-R model
 - Driver: *Population Growth; Development Oriented Policy*
 - Pressure: *Ratio of Wood Removal over Thousand Hectares of Forest Cover*
 - State: *Percent of Forest Cover over Total Land Area*
 - Impact: *Siltation m³/year*
 - Response: *Expenditure on Forest Conservation; Permanent Forest Estate as % of Total Land Area*
- Overall rating - "2 Stars"

8

Environmental Pririties and Challenges

Priority Concern I : Forest Resources

- Challenges
 - Main driver - population has been increasing. not yet a population policy; and also almost no migration control.
 - Prevailing international and internal situations have great pressure on current development programs and policies; driving for more over exploitation of natural resources.
 - Average wood removals in Myanmar approximately doubled since 1975 and annual losses of forest area accelerated notably since 1989.
 - Without consistent and increasing response to the pressures on the resource the loss of forest cover is set to continue.
 - The resources devoted to forest conservation have fluctuated in recent years showing no clear trend.

9

Environmental Pririties and Challenges

Priority Concern I : Forest Resources

- Challenges
 - A shift towards people-oriented forestry is underway. However the plan needed interim monitoring and feedback and adjustments.
 - Impact indicator - siltation clearly shows the need for more integrated approach with other sectors like agriculture such as Integrated Watershed Management Plans.
 - PFE increased from 15.3 % of the total land area in 1995 to about 26% in 2010. This is almost half of the policy target in the 1995 Forest Policy. However distribution funds clear stated that conservation needs more share and also Research and Development needs much more allocations.

10

Environmental Pririties and Challenges

Priority Concern II: Water Resource and Quality Status

- P-S-R model
 - Pressure: *Population Growth; Irrigated Crop Sown Area*
 - State: *Percent of Population with access to Safe Water; Irrigated Area as Percent of Irrigable Area*
 - Response: *Expenditure on Drinking Water Supply; Expenditure on Irrigation Management; Infrastructure Development for Safe Drinking Water; Number of Dams/Reservoirs*
- Overall rating - “2 Stars”

11

Environmental Pririties and Challenges

Priority Concern II: Water Resource and Quality Status

- Challenges
 - Significant progress has been made in providing for both safe drinking water and water for other purposes in Myanmar.
 - While the population of Myanmar increased steadily, at around 2% per annum, the rate of access to safe potable water was faster than that, around 2.5% per annum.
 - At the same time, water supply for other uses such as irrigation also increases in a rapid phase.
 - However, it is important that various sources of water such as rainfalls and water level in many rivers start to decline.

12

Environmental Pririties and Challenges

Priority Concern III: Land Degradation

- P-S-R model
 - Pressure: *Growth in Upland Population*
 - State: *Vulnerable Farm Area as Percent of Total Cultivated Area*
 - Response: *Land Rehabilitated as percent of Area Sown to Crop*
- Overall rating - "2 Stars"

13

Environmental Pririties and Challenges

Priority Concern III: Land Degradation

- Challenges
 - Comparatively serious land degradation in the form of soil erosion in Myanmar counts dry zone and upland farming areas. ~30% of Myanmar's population resided in upland areas
 - Natural Soil erosion in upland area is aggravated by the human activity, particularly unscientific shifting cultivation.
 - Degraded lands have to be improved by MoECaF and MoAI with the supporting of other line ministries.

14

Environmental Pririties and Challenges

Priority Concern IV: Climate Change

- P-S-R model, not Response but Mitigation and Adaptation
 - Pressure: *Deforestation; Greenhouse Emission from Paddy Fields; Forest Fire and Haze*
 - State: *Trend of Temperature & Frequent Drought; Frequent Incidence of Natural Disasters*
 - Mitigation and Adaptation: *UNFCCC Projects, Myanmar Action Plan for Disaster Risk Reduction, Dry Zone Greening Project, and Reforestation and Afforestation Activities*
- Overall rating - "2 Stars"

15

Environmental Pririties and Challenges

Priority Concern IV: Climate Change

- Challenges
 - Climate change contributions of Myanmar are high but stabilizing.
 - Natural weather conditions are also becoming extreme, however adaptation activities can be considered significantly responsive in the region.

16

Environmental Pririties and Challenges

Priority Concern V: Inadequate Solid Waste Management

- P-S-R model
 - Pressure: *Total Population in Yangon and Mandalay Cities*
 - State: *Solid Waste Generation in Yangon and Mandalay Cities*
 - Response: *Expenditure on Solid Waste Management in Yangon and Mandalay Cities; Municipal Waste Collected as the Percentage of Generation*
- Overall rating - “2 Stars”

17

Environmental Pririties and Challenges

Priority Concern V: Inadequate Solid Waste Management

- Challenges
 - Solid waste collection and disposal improved considerably in two principal cities during the last decade but remain unsatisfactory in the majority of small towns and settlements.
 - ~80% of waste generated in Yangon is now collected. The performance in second-tier towns has stagnated or even deteriorated slightly.
 - The Government’s vision has been articulated in the ‘Green & Clean City’ Campaign without, however, being accompanied by specific quantified targets for the activity/

18

Environmental Pririties and Challenges

Priority Concern VI: Thread to Biodiversity

- P-S-R model
 - Pressure: *Loss of Mangrove Ecosystem of the Delta Forest Reserves and Habitat Loss in Country*
 - State: *Threatened Species as Percent of Globally Threatened Species*
 - Response: *Percent Protected Area over Total Land Area; Integrated Illegal Wildlife Trade Control Measures*
- Overall rating - "2 Stars"

19

Environmental Pririties and Challenges

Priority Concern VI: Thread to Biodiversity

- Challenges
 - In Myanmar, loss of habitat in terms of negative change in close forest during 1989 to 2006 reached more than 14 million hectares which is 8% of total land area. In delta area, mangrove forest declined from about 160,000 hectares in 1995 to 70,000 hectares in 2008.
 - By achieving 2010 target of establishing protected areas at 5% of total land, about 4.35% of the country area had been notified as Protected Areas up to 2009.

20

Environmental Pririties and Challenges

Priority Concern VII: Impacts of Mining Industry

- P-S-R model
 - Pressure: *Increased Activities of Mining*
 - State: *Suspended Particulate Matters; Acid Mist Producing*
 - Response: *Regular Monitoring of Contaminants and Toxicant and Re-plantation*
- Overall rating - "2 Stars"

21

Environmental Pririties and Challenges

Priority Concern VII: Impacts of Mining Industry

- Challenges
 - With the objectives to meet the domestic requirements and to promote export, extraction of various minerals and encouragement of active participation of private sector have been undertaken.
 - There are still challenges to conserve and monitor the environment along with growth of production even though measures of the environmental conservation to be taken is included in the Myanmar Mines Law.
 - In addition to systematic and regular monitoring system, environmental auditing by third party must be placed in every mining sites and plants in order to access credible information of environmental impacts.

22

Data Assessment and Strengthening of Database Management

- Associated points with environmental information databases and systems:
 - (1) Exercises on environmental data generation and sharing based on available secondary information and sources were ad-hoc basis upon the request and it is yet to foster “the sense of ownership” in environmental information among various stake holders to take part of routine work and of reporting requirement in examining the pace toward the goal of sustainable development.

23

Data Assessment and Strengthening of Database Management

- Associated points with environmental information databases and systems:
 - (2) Most of the data pertaining to pollution and specific environmental parameter are very limited. Generation of specific environmental information from prevailing data set is uneasy or sometime it does not match with information requirement. Moreover data are generated by administrative unit wise; and when environmental information is to deal with ecological units, it needs to extrapolate the data from administrative unit wise to ecological unit wise with assumption, interpretation and adjustment.

24

Data Assessment and Strengthening of Database Management

- Associated points with environmental information databases and systems:
 - (3) Obviously information pertaining to environmental indicators is scattered in environment relevant agencies and no agency nor mechanism is yet established for data compilation, reconciliation and streamlining for management purposes and information disclosure in national statistical book.
 - (4) National resource centre for environmental data assessment and database management should be established.

25

Data Assessment and Strengthening of Database Management

- Associated points with environmental information databases and systems:
 - (5) Formal environmental information database system is not yet established and data collecting, processing and reporting are conducted on case-by-case basis.
 - (6) Sources of environmental data are subject to different Ministries and particular Departments/Agencies.
 - (7) About 40 sources from 24 Ministries are appropriate to provide needed information for EPA Report
 - (8) In fact, data focal points of every department have to provide set of environmental data to the core environmental concern institution.

26

Data Assessment and Strengthening of Database Management

- Associated points with environmental information databases and systems:
 - (9) The data should also include related sectoral impacts on the environment, the status of environment and response measures on these impacts.
 - (10) All relevant departments need to have been requested to provide environmental information for EPA in a regular basis. In fact, each and every source needs to support environmental database and information systems by keeping themselves as the baseline source (BLS) and regular reporting source (RRS).
 - (11) As the regular reporting source, environmental data and information are needed to produce regularly such as monthly, quarterly, annually or biannually.

27

Conclusion

- Since 1990, National Commission for Environmental Affairs (NCEA) has been established as the sole government body to develop environment policies, to set environmental standards, to lay down strategies, and to promote awareness.
- The commission has data collecting, processing and reporting procedure on case-by-case basis.
- To put EPA into operation, relevant capacity and necessary development are raised upon main activities of EPA.

28

Conclusion

- National Commission on Environmental Affairs – NCEA was recently closed down and Environment Conservation Committee – ECC consisting ministers and deputy ministers from line ministries was reformed.
- This committee chaired by minister for Environmental Conservation and Forestry - formerly Ministry of Forestry – is taking supervising and coordinating role.
- In addition, Environmental Law is now being debated in Parliament to be enacted, followed by forming a new department - Environmental Conservation Department which will be taking responsibility of environmental affairs.

29

Conclusion

- According to the concept of sustainable development, three pillars: economic, social and environment must be harmony and balance
- Therefore, environmental statistics is needed to focus like economic and social statistics for decision makers
- The followings should be considered:
 - Coordination among relevant organizations for data collection, compilation and analysis
 - Research and survey for technical data such as air and water quality
 - Technical transfer
 - Capacity building and training for environmental statistics

30

Thank You