

The Need for Natural Resources Accounting (NRA) in the System of
Bangladesh National Accounting (BSNA)

By Shabnam Mustari
205 775 747

Submitted to Patricia E (Ellie) Perkins
Faculty of Environmental Studies

A Major Paper submitted to the Faculty of Environmental Studies in partial
fulfillment of the requirements for the degree of Master in Environmental Studies

York University
Faculty of Environmental Studies
North York, Ontario, Canada

August 29, 2008

Student signature: _____ Supervisor signature: _____
Shabnam Mustari Patricia E(Ellie) Perkins

Abstract

As in with most other developing nations, overuse and destruction of natural resources is already, in fact, negatively impacting the welfare of millions of people in Bangladesh, and threatening their food security and quality of life. There is a need for an empirical basis on which to base policy decisions regarding trade-offs between the many competing priorities of a developing nation. Through the lens of conventional national accounting, natural resource depletion and degradation often misleadingly appear as desirable economic growth. The Bangladesh System of National Accounts (BSNA), is primarily an economic framework which is incapable of capturing natural resources, distorts macroeconomic measurement and analysis, and is far more useful for economic than for environmental policy making. Natural Resource Accounting (NRA) would be a useful tool in Bangladesh where natural resources are being run down and the overriding environmental concern is resource depletion and degradation. Natural Resource Accounting offers statistical information relevant to understanding the linkages between the environment and the economy, and provides essential data on the physical quantities and attributes of natural resources and their changes over time. This paper assesses the need for NRA in Bangladesh by reviewing the state of Bangladesh's natural resource base and discussing specific problems and issues in a number of key areas. This paper stresses the awareness of policy makers and statisticians about the importance of NRA and its policy uses, and the institutionalization of NRA in the routine data collection of the National Statistical Offices, as crucial for the successful adoption and implementation of NRA in Bangladesh. Finally, this paper provides a framework for NRA that builds on the guidelines of the System of Integrated Environmental and Economic Accounting (SEEA), System of National Accounting (SNA) 93 and Natural Resource Stock Accounts used by Statistics Canada, which might be appropriate for Bangladesh, and outlines an action plan for implementing NRA in Bangladesh. This paper argues that the accounting framework of NRA, even without complete or perfect monetary valuations, can provide a data system that can be of tremendous use to those responsible for making sustainable development policy.

Foreword

This paper is the product of a Plan of Study centred on the application of important aspects of Ecological Economics in the Bangladesh System of National Accounting (BSNA) to contribute to ecologically sustainable economic development in Bangladesh. This major paper is significant in the fulfillment of my Plan of Study. My Area of Concentration is *Ecologically Sustainable Economic Development*. Ecologically Sustainable Economic Development is a path of economic development that safeguards the welfare of future generations, protects biological diversity and maintains essential ecological processes and life support systems, the natural foundation on which economic activities are based. My plan of study has focused on this new emerging area by linking three components including ecological economics, green business and green national accounting to ensuring that ecologically sustainable economic development is achieved. The intent of this major paper is to find new accounting approaches to provide information on ecological impacts derived from economic activity. This research paper directly relates to four of my prime learning objectives:

Learning objective 1.2

To understand how the principles of Ecological Economics can be applied in national accounting systems

Learning objective 3.2

To learn about natural resource accounting in Canada and Bangladesh through a literature review and field work, so that I have a foundation with which to write my Major Paper.

Learning objective 3.3

To explore the treatment of the depletion of natural resources in the national accounting system and to apply it in the Bangladesh national accounting system.

Learning objective 3.3

To explore the importance and use of green national accounting for economic and environmental decision making

This is a high degree of overlap between this paper and the overall topic of my Plan of Study. In addition to fulfilling these specific learning objectives, this paper also helps to complete nearly all other of my learning objectives.

This paper discusses the rationale for Natural Resource Accounting (NRA) and the necessity of incorporating natural resources in the System of National Accounts of Bangladesh (BSNA). This stems from the realization that economic development at the expense of natural resources is not likely to be economically viable or sustainable over the long term in Bangladesh. At the UN Conference on the Environment and Development (CBD) in Rio de Janeiro , 1992, the Government of Bangladesh (GoB) signed the Rio convention and it ratified the convention on May 03, 1994. Agenda 21 of CBD suggested activities for the promotion of NRA. As a signatory of CBD the Government of Bangladesh thus has the obligation to promote NRA, and to develop tools and methodologies for NRA that can be used to gather and manage natural resource information in Bangladesh.

This paper provides a framework for NRA that builds on the guidelines of the System of Integrated Environmental and Economic Accounting (SEEA), System of National Accounting (SNA) 93 and Natural Resource Stock Accounts used by Statistics Canada, which might be appropriate for Bangladesh and outlines an action plan for NRA.

This paper stresses the institutionalization of NRA. The institutional dimension stems from the realization that the creation of NRA in Bangladesh has no chance of succeeding unless it is supported by a strong institutional framework for dialogue between the responsible government departments, scientists, economists, planners, and statisticians.

This paper is intended for use by planners and decision makers and statisticians to enhance their understanding of the implications of NRA, and by the experts who will implement NRA in Bangladesh.

Contents

Abstract	ii
Foreword	iii
Table of Contents	v
Acknowledgement	vii
List of abbreviations	ix
Chapter I Introduction	1
1.1 Identification of Problem.....	7
1.2 Thesis Statement.....	9
1.3 Natural Resource Accounting: What it is and what it does.....	10
1.4 Objective.....	14
1.5 Methodology.....	14
1.6 Organization of this Paper.....	17
Chapter 2 Why does Bangladesh need Natural Resources Accounting	18
2.1 The Current Status of Natural Resources and their Linkages to Economic Development in Bangladesh.....	20
2.2 Efforts to Protect and Conserve Natural Resources and Their Success in Bangladesh.....	31
2.3 The Rationale for NRA in Bangladesh.....	34
Chapter 3 The Construction of NRA Framework in the Bangladesh System of National Accounting (BSNA)	36
3.1 Discussion on the Current System and Shortcomings of BSNA for NRA.....	36
3.2 Why Use a SNA Approach for NRA in Bangladesh.....	46
3.3 Considerations for Accounting Framework and the Design of a NRA Effort in Bangladesh.....	48
3.4 Considerations for Natural Resource Asset Boundary for NRA in Bangladesh.....	54
3.5 Considerations for Physical versus Monetary Accounting.....	58
3.6 Considerations for Valuation Principles.....	61
3.7 Considerations for a Cooperative Approach to Data Collection.....	66
Chapter 4 Institutional Issues to Adopt NRA in Bangladesh	72
4.1 The Previous Policy Attempts and Experiences Related to NRA in Bangladesh.....	72
4.2 Legal, Systematic and Institutional Weaknesses of National Statistical Office, BBS to Adopt NRA.....	75
4.3 Awareness of Policy Makers, Policy Planners, Other Data Users and Data Producers.....	77
4.4 Recommendations to Institutional Arrangement for NRA.....	82
Chapter 5 Experiences in Countries Using NRA with Particular Emphasis on Developing Countries	85
Chapter 6 Action Plan for NRA	92
Chapter 7 Conclusion	97
Annexes	99

Annex 1	List of the Participants of Different Organizations Participated in Interview Process.....	99
Annex 2	Questionnaire for Policy Maker.....	101
Annex 3	Questionnaire for Statisticians.....	103
Annex 4	List of Participants Attended in Informal Briefing at FD.....	105
Annex 5	List of Participants Attended in Informal Briefing at BBS.....	106
Annex 6	Presentation Pictures of Informal Briefing at BBS.....	107
Annex 7	Presentation Pictures of Informal Briefing at FD.....	108
References		109
Tables		55
Table 1	Comparative Summary of Asset Boundary in the SNA93 and SEEA 2003.....	55
Table 2	Types and Examples of Goods and Services by Natural Capital Type.....	61
Figures		3
Fig 1	GDP Growth Rate in Bangladesh Over the Last Decade.....	3
Fig 2	The Information Continuum.....	70
Fig 3	Shortcomings and Barriers of the Bangladesh Bureau of Statistics (BBS) to Launch NRA.....	81
Boxes		11
Box 1	Some Remarks of GDP Growth on Natural Resource base in the Last Two Decades.....	3
Box 2	Physical Accounting Format of Forest Land.....	11
Box 3	Cost of Environmental Degradation in Bangladesh.....	39
Box 4	Some Policies of GoB Directly Encourage Resource Depletion in Bangladesh.....	44
Box 5	Some Wrong Decisions and Assessment on Forest Resources.....	45

Acknowledgement

At first, I would like to thank Professor Patricia E (Ellie) Perkins for her advice and supervision in the past two years. She helped me a lot to identify my research area in the new transdisciplinary field based on my career interest. Perkin's practical approach, extensive knowledge of Ecological Economics, positive encouragement and kind heart have been always instrumental to the successful completion of my major paper. I wish to recognize her valuable effort in editing the text, and without whom I would not have been able to progress my major paper as fluently as I did. I would also like to thank my advisor Anne Bell, who demonstrated patience during the numerous revisions of my Major Paper Proposal. Furthermore, I am indebted to Professor Peter Victor. His expertise and knowledge of Ecological Economics and Environmental Economics have provided me with a much-appreciated opportunity to develop my own understanding of the idea of Natural Resource Accounting (NRA) and his advice for reading materials; his constructive comments and suggestions; and his passion for my major paper are unrivaled. I would like to give special thanks Professor Ray Rogers whose encouragement, positive support and passion motivated me to work hard and make a positive difference through out the program of Master in Environmental Studies.

I would like to express my deep gratitude to Tajkera Begum, Director, National Accounting Wing, Bangladesh Bureau of Statistics (BBS) for her mentoring and her optimism about my work at the time of internship in BBS. I wish to recognize the contribution of Autin Babu, Deputy Director, National Accounting Wing, BBS. I would like to thank him to teach me about the Bangladesh System of National Accounting (BSNA) and without whom I would not have been able to understand about the BSNA very well.

I am also indebted to the policy makers, researchers, experts and statisticians of Bangladesh who contributed to this paper by their constructive comments and

suggestions and by their participation in my research interviews and informal briefings of preliminary findings of the study. I should thank BBS and Finance Division, Ministry of Planning to organize informal briefing meetings to present preliminary findings of the study.

I should thank Canadian International Development Agency (CIDA) for its funding in this study through the Student for Development Program, York University. I should express my gratitude to the Director and staff of the Division of Environmental Accounting, Statistics Canada to provide me information on Natural Resource Stock Accounts of Statistics Canada and recommend me to consult on several references in developing NRA in Bangladesh.

I would like to thank my parents for their honest attempt to encourage me doing a need based research that will help development planning and policy making of the Government of Bangladesh. Furthermore, I would like to thank my family for their continuous encouragement, support and hope for the best throughout the development of the paper. Especially I wish to recognize indirect contribution of my two sons. My elder one Shaibal always supports me by bringing a cup of tea during writing my major paper to release my tension and anxiety; and my little kid Shabab helps me a lot without disturbing me despite having invisible desire to be always with mom.

Last but not least I would like to thank S. M. Rezwana-ul-Alam, Senior Communication Officer, The World Bank Office, Dhaka, and my three colleagues Md. Abdur Rahim and Shirajun Nur Choudhury, Finance Division, and Md. Ruhul, Department of Forest for their positive support to collect as much as documents, research paper and information related to my research area.

List of Abbreviations

ABS	Australian Bureau of Statistics
BARC	Bangladesh Agricultural Research Council
BBS	Bangladesh Bureau of Statistics
BCAS	Bangladesh Centre for Advanced Studies
BEMP	Bangladesh Environmental Management Project
BIDS	Bangladesh Institute for Development Studies
BNCS	Bangladesh National Conservation Strategy
BSNA	Bangladesh System of National Accounting
CBD	Conference on the Environment and Development
CBS	Central Bureau of Statistics
CIDA	Canadian International Development Agency
DAE	Department of Agricultural Extension
DEP	Dhaka Environment Programme
DOF	Department of Forest
DENR	Department of Environment and Natural Resources (Philippines)
ENRA	Environmental and Natural Resources Accounting
ENRAP	Environmental and Natural Resources Accounting Project
EDP	Environmentally Adjusted Domestic Product
FAO	Food and Agricultural Organization
FD	Finance Division
FSO	Federal Statistical Office (Germany)
GDP	Gross Domestic Product
GIS	Geographic Information Systems
GoB	Government of Bangladesh
IUCN	International Union for Conservation and Nature
MOL	The Ministry of Land
NDP	Net Domestic Product
NEMAP	National Environmental Management Action Plan
NGO	Non-Governmental Organization
NPA	National Patrimony Account (France)
NRA	Natural Resources Accounting
OECD	Organization for Economic Cooperation and Development
SEEA	Satellite System for Integrated Environmental and Economic Accounting
SEMP	Sustainable Environment Management Programme
SNA	System of National Accounts
SRDI	Soil Resources Development Institutes (Bangladesh)
UNEP	United Nations Environmental Programme
UNFDES	United Nations Framework for Development of Environmental Statistics
UNSTAT	United Nations Statistical Division
VA	Value Added
WRI	World Resources Institute

