

**INTEGRATED RIVER BASIN MANAGEMENT FOR THE
GANGES: LESSONS FROM THE MURRAY-DARLING AND
MEKONG RIVER BASINS (A BANGLADESH PERSPECTIVE)**

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BSc (Hons.), MSc. in Chemistry, M. Env. St.

Thesis submitted for the Degree of Doctor of Philosophy

in

Discipline of Geographical and Environmental Studies

The University of Adelaide

February 2008

ABSTRACT

This thesis examines the applicability of the Murray-Darling Basin (MDB) model of Integrated River Basin Management to the Ganges Basin by utilising the lessons from the Mekong experience of adopting the MDB model. The Ganges is one of the major rivers in the world and the sharing of its water has long been an issue of dispute between the riparian countries. Fragmented and uncoordinated upstream management of the Ganges has caused serious ecological and economic loss in the downstream environment posing a threat to future sustainability of river resources. Cooperation among the riparian countries of the Ganges in order to embrace an integrated and basin-wide management approach is rapidly becoming more important.

Integrated River Basin Management (IRBM) is a concept widely advocated in different forums for managing the river basins of the world and is adopted in many transboundary river basins. The Australian example of managing the Murray-Darling Basin is considered as a model in the field. The Murray-Darling Basin Commission is well known internationally as a good example of a multi-jurisdictional water management institution. Similar river basin institutions are also evolving in other regions such as the Mekong River Commission for the management of the Mekong River in South-East Asia. The countries sharing the Ganges could learn lessons from the Murray-Darling and Mekong experiences and adopt a basin-wide approach for the better management of the Ganges. However, the policy transfer from a developed country to a developing country context is a challenging process. The highly pertinent contextual differences in social, economic, political, environmental and hydrological settings of the three cases need to be carefully addressed. The research critically examines these factors in the Murray-Darling, Mekong and the Ganges contexts, identifies the similarities and differences between them and attempts to understand the influence/s of these in the policy transfer or policy development process.

This research adopted multiple-case studies involving both qualitative and quantitative methods. The cases of the Murray-Darling and Mekong were studied to understand the process and to utilise the lessons learned for the institutional development towards integrated and basin-wide approach for the Ganges. The study analyses the interview results from the experts in the relevant fields to get an insight of different issues and also to collect their opinions. The responses from the stakeholder interviews in Bangladesh were

analysed to understand their perspective in this regard. The thesis concludes that adoption of the Murray-Darling Basin model of integrated management needs modification in the Ganges context and recommends a specific institutional structure for the basin-wide management of the Ganges.

The thesis contributes to an area of knowledge in recent times by providing a greater understanding of the Integrated River Basin Management in a multi-jurisdictional context. It critically examines the issues in policy transfer from a developed to a developing country focussing on a little studied but significant international river basin, the Ganges. It is hoped that this thesis will contribute towards better policy options for the sustainable management of the international river system.

DECLARATION

This thesis contains no material which has been accepted for the award of any other degree or diploma in any university or other tertiary institution and, to the best of my knowledge and belief, the thesis contains no material previously published or written by another person, except where due reference is made in the text.

I consent to this copy of my thesis being made available in the Discipline of Geographical and Environmental Studies/The University Library for loan and photocopying.

Mosharefa Shahjahan

February 2008

ACKNOWLEDGEMENTS

My sincere thanks go to Professor Nick Harvey who provided me with enormous support and guidance during his supervision in conducting this research. I would like to express my heartfelt gratitude to him and his family for those ‘Daffodils’ while I was upset and for those happy moments of ‘Koala watch’. I am also grateful to Dr. Dianne Rudd, my co-supervisor, for her valuable feedback on my chapters and her help in data analysis. I am thankful to Professor Martin Williams who guided me with valuable advice on several occasions. I thank Dr. Gour Dasvarma, my external supervisor, for his useful comments on the first few chapters of my thesis.

Completion of this research was possible by the assistance from different organisations and generosity of various individuals in Australia and Bangladesh. My sincerest thanks to all who participated in the interviews and helped me in completing this research. I would like to thank the University of Adelaide for giving me the opportunity to undertake this program by offering the Endeavour IRRS Scholarship. I am grateful to the Australian Mekong Resource Centre (AMRC), Sydney University and the Murray-Darling Basin Commission (MDBC), Canberra for welcoming me to conduct interviews and library search in a cooperative environment. Thanks to Dr. Wendy Craik, Chief Executive Officer, MDBC and Professor Philip Hirsch, Director, AMRC for their support during my visit to these organisations.

Accessing the rural community in Bangladesh would not have been possible without the assistance from Shariatpur Development Society (SDS), Faridpur Development Agency (FDA) and Amra Kaj Kori (AKK), three of the renowned NGOs in Bangladesh. My thanks go to these organisations and also to the District Administration of Faridpur. I also thank the Centre for Environment and Geographic Information Services (CEGIS) and Bangladesh Paribesh Andolon (BAPA) for their active support during my field work in Bangladesh. Professor Inun Nishat, Country Representative, IUCN-Bangladesh, Qazi Kholiquzzaman Ahmad of Bangladesh Unnayan Parisad (BUP) and Giasuddin Ahmed Chowdhury, Executive Director of CEGIS deserve a special note of appreciation.

I wish to thank Christine Crothers in the Discipline of Geographical and Environmental Studies of the University of Adelaide for preparing all the maps used in this thesis. I also express my gratitude to all other staff members of this Discipline and my fellow students for their support and company.

I thank Phillip Thomas for proof reading my chapters. I am grateful to Sultan Ahmed, Shariful Islam and Nusrat Jabeen Banu for their help and assistance from Bangladesh whenever I needed them. Thanks to my friends Abedin, Angela, Dadang and Sayma who were just a call away to help me with their caring hearts. I thank Sarah Goodall for her help when I first started. I also thank my two other great room-mates Swarnalatha Ukwatta and Emily Moskwa for sharing all the ‘high and lows’ with patience and inspiring me during the hard times.

Thanks to my family who have been encouraging me all the way through and provided me with all the support to complete this task. My parents have been dreaming of this day for a long time. My daughter Totiny and her husband Tapan was always there to take over even my little problems back in Bangladesh including assistance in Bengali typing for my questionnaires. My little niece Safaa made my stay in Australia enjoyable with her cute telephone conversation every evening. I am grateful to all of you for this achievement.

Finally, I am grateful to the Almighty for giving me the courage and strength to complete this difficult journey and achieve my goals.

ABBREVIATIONS

ACT	Australian Capital Territory
ADB	Asian Development Bank
AMRC	Australian Mekong Resource Commission
AUS \$	Australian Dollar
BAPA	Bangladesh Paribesh Andolon (Bangladesh Environment Movement)
BDP	Basin Development Plan
BWDB	Bangladesh Water Development Board
CEGIS	Centre for Environmental and Geographic Information Services
CEO	Chief Executive Officer
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DPHE	Department of Public Health and Engineering
DPR	Detailed Project Report
ERB	Expert Respondent Bangladesh
ESCAP	Economic and Social Commission for Asia and the Pacific
ECAFE	Economic Commission for Asia and the Far East
FFWC	Flood Forecasting Warning Centre
GBM	Ganges-Brahmaputra-Meghna
GDA	Ganges Dependant Area
GDP	Gross Domestic Product
GNP	Gross National Product
ICPDR	International Commission for the Protection of the Danube River
ICM	Integrated Catchment Management
ICWE	International Conference on the Water and the Environment
ILRP	Inter-Linking of the River Project
IMC	Interim Mekong Committee
IPCC	International Panel of Climate Change
IUCN	World Conservation Union
IWMI	International Water Management Institute
JRC	Joint Rivers Commission
km	kilometre
Lao PDR	Lao People's Democratic Republic
LGED	Local Government Engineering Department
MDB	Murray-Darling Basin

MDBC	Murray-Darling Basin Commission
MDBI	Murray-Darling Basin Initiative
MoWR	Ministry of Water Resources
MoLGRDC	Ministry of Local Government, Rural Development and Construction
mm	millimetre
MoU	Memorandum of Understanding
MRC	Mekong River Commission
MW	Mega Watt
NARBO	Network of Asian River Basin Organisations
NGO	Non-Government Organisation
NMC	National Mekong Committee
NSW	New South Wales
NWP	National Water Policy
NWRC	National Water Resources Council
OMVS	Development of the Senegal River
RAMRC	Respondent Australian Mekong Resource Centre
RMDBC	Respondent Murray-Darling Basin Commission
RRI	River Research Institute
RSB	Respondent Stakeholder Bangladesh
SA	South Australia
SAARC	South Asian Association for Regional Cooperation
SADC	Southern African Development Community
sq. km	square kilometre
SNC	Supreme National Council
TFDD	Transboundary Freshwater Dispute Database
TVA	Tennessee Valley Authority
UN	United Nations
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
US	United States
USA	United States of America
USSR	United Soviet Socialist Republic
WARPO	Water Resources and Planning Organisation
WASA	Water Supply and Sanitation Authority
WCD	World Commission on Dams

WSSD World Summit on Sustainable Development
WWF World Wide Fund for Nature

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