NATIONAL WORKSHOP
ON
MANGROVE RESEARCH & DEVELOPMENT
MAY 15-16, 2001

Organized by

BANGLADESH FOREST RESEARCH INSTITUTE (BFRI)
CHITTAGONG

Sponsored by

FOREST RESOURCE MANAGEMENT PROJECT (FRMP)
IDA Credit No. 2397-BD

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BANGLADESH FOREST RESEARCH INSTITUTE, CHITTAGONG

Introduction

Mangroves are salt tolerant ecosystems in the tropical and subtropical region. These dynamic forest ecosystems may extend a few metres to several kilometres inland from the sea. The forests are generally flooded with brackish water during high tides. The trees are evergreen and their height may exceed 30 m. Although mangrove species live under saline conditions, they have the normal plant requirements of fresh water, adequate nutrients, oxygen and sunlight. Many of the species possess unique adaptations such as stilt roots, pneumatophores, lenticels, and viviparous germination that permit their existence in a relatively stressful environment.

In Bangladesh mangroves occur both as natural forests and as plantations. They include the Sundarbans, Chokoria Sundarbans and mangrove plantations. The Sundarbans is the largest single continuous natural mangroves in the world. It is found from Khulna district sweeping northwest into West Bengal of India and covers an area of over 600,000 hectares within Bangladesh territory. The Chokoria Sundarbans, located in Cox's Bazar district, covers an area of approximately 18,000 hectares. During the last 40 years extensive areas of mangrove plantation (170,000 hectares) have been established in the coastal areas. All these mangrove forests are under heavy pressure from industry and local communities. Growing stock of *Heritiera fomes* and *Excoecaria agallocha*, the most valuable components of the Sundarbans, have been reduced by roughly 50%. The Chokoria Sundarbans has been completely denuded mainly because of shrimp farming. Improved propagation, management and utilization methods can help rehabilitate mangrove forests of Bangladesh and ensure sustainable yield and services. BFRI has been carrying out research on various aspects of the mangrove forests during the last one and half decade with emphasis. Some notable research findings of BFRI are given below :

Notable Research Finding

- Soil characteristics of mangrove environment
- Floral composition of mangroves

- Regeneration status in relation to abiotic and biotic factors of the Sundarbans
- Aided natural regeneration in the Sundarbans
- Scope of enrichment planting in the Sundarbans
- Vegetation studies of the Chokoria Sundarbans and feasibility of reforestation
- Seed biology of *H. fomes, E. agallocha, S. apetala* and *A. officinalis*
- Growth performance of mangrove species
- Nursery manual for commercially important mangrove species
- Planting techniques of *S. apetala* and *A. officinalis*
- Nursery, plantation and management for *N. fruticans*
- Nursery and plantation techniques for *P. paludosa*
- Seed Production Area for *S. apetala* and *A. officinalis*
- Financial rotation for *S. apetala* in the plantation
- Second rotation crops in the existing coastal plantation
- Non-mangrove species for raised coastal lands
- Volume tables for plantation species
- Survey of pests and diseases and their management
- Properties and utilization of mangrove species

Many of the research findings are known to the beneficiaries for implementation. However, further research and technology transfer activities are required.

Workshop on Mangrove Research & Development

The out come of the workshop will help improve the management of mangroves in Bangladesh. The goal, objectives and expected output of the workshop are :

Goal

Review research findings and identify problems regarding mangrove forest and plantation management, and develop suitable strategies for transferring BFRI knowledge towards solving these problems.

Objectives

Present BFRI's technologies on mangrove nursery and plantation techniques;

Develop strategies for sustainable management of mangrove forest and priority mangrove species;

Identify the priority problems related to the sustainable management of mangrove forests; and

Develop suitable extension mechanism for research findings.

Outputs

List of the existing mangrove management systems and important species;

List of major mangrove management problems;

Recommend a suitable extension mechanism for facilitating collaboration between BFRI and clients. These outputs will be documented in the workshop proceedings.

Venue

Bangladesh Forest Research Institute, Chittagong

Date : May 15-16, 2001

Language : Bangla / English

BFRI at a Glance

Established in 1955 in Chittagong City, the institute aims to conduct research for increased productivity and better utilization of forest resources. It is the only national institute of Bangladesh dealing with various aspects of foresty research. BFRI has 17 Research Divisions and 21 field level research stations. Two Divisions (based in Khulna and Barisal) are exclusively involved in mangrove research. About 100 scientists are engaged in research in the institute. The institute has made considerable research achievements which have high impact on better management of forests, utilization of forest produce and conservation of natural environment.

Participants

Officers of Forest Department; Field Researchers from BFRI; Teachers of Chittagong University, Khulna University and Shahjalal Science and Technology University; Forest Managers from selected industries; and Managers from the NGOs concerned with the mangroves.

Working Groups

Working groups will be formed on the second day to identify the existing major mangrove management problems and recommend suitable extension mechanism that will enable BFRI to address these problems. The working groups will cover four topics namely :

Propagation and nursery management

Management of mangrove forests and plantations

Silviculture of priority mangrove species

Socio-economic aspects and participatory approaches to mangrove management

The issues to be addressed by each working group are:

- **Propagation and nursery management**

  Summarize the major propagation methods and nursery practices used to establish mangroves

  Summarize the major problems and research priorities related to propagation and nursery management

  Recommend how BFRI can address these problems

- **Management of mangrove forests and plantations**

  Summarize the major mangrove forest and plantation management systems

  Summarize the major problems and research priorities related to mangrove management

  Recommend how BFRI can address these problems

- **Silviculture of important mangrove species**

  Summarize the important species found in Mangrove forests and plantations

  Summarize the major problems regarding management and utilization of these species

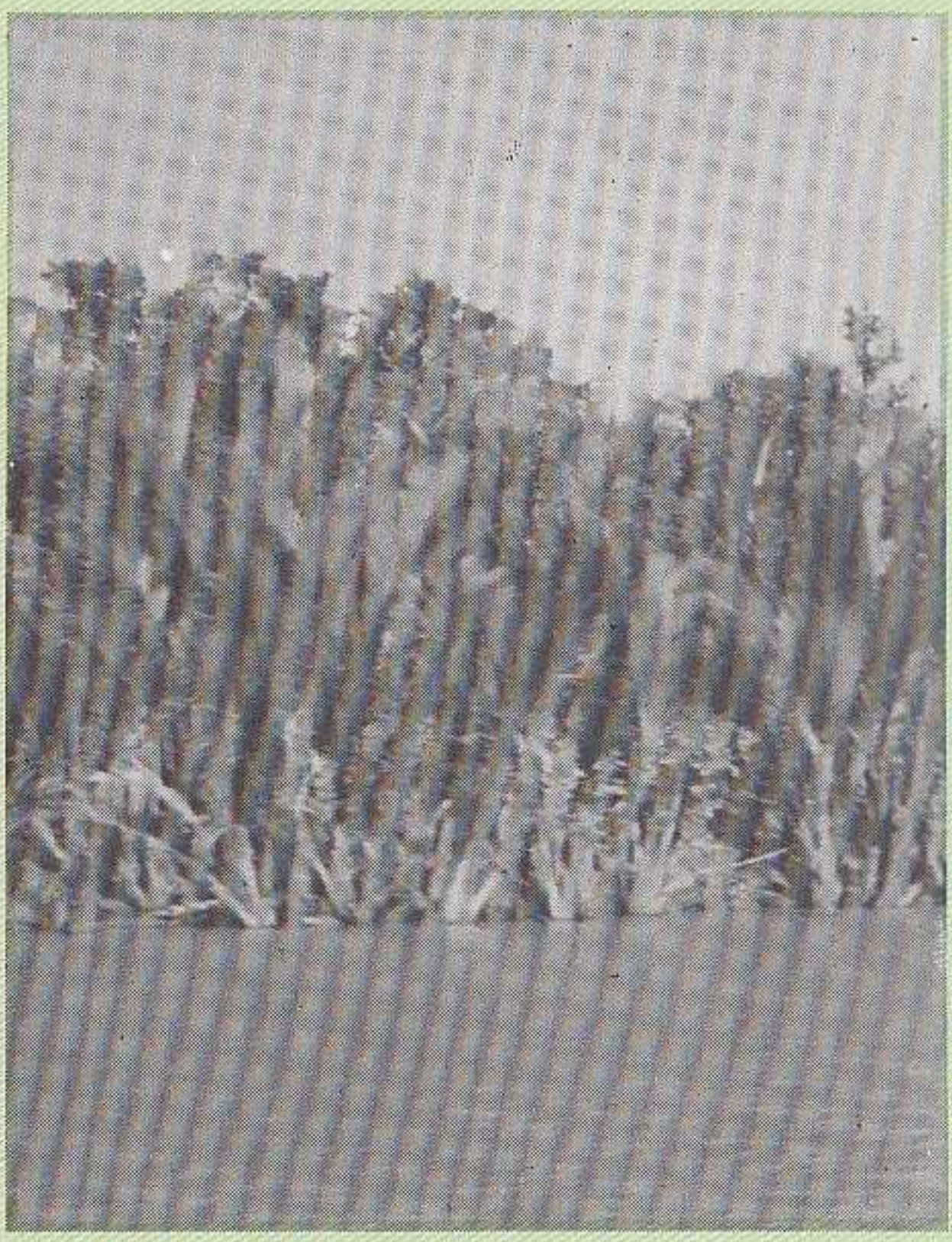
  Recommend how BFRI can address these problems

- **Socio - economic aspects and participatory approaches to mangrove management**

  Summarize how local communities use and depend on mangrove forests to support their livelihoods

  Summarize the major problems faced by these communities when utilizing mangrove forests/plantations

  Recomm end how BFRI can address these problems through extension or research activities.



A view of the Sundarbans

Photo : Nazrul Haque