

# Community-Based Ecological Mangrove Restoration (CBEMR) Training Workshops



## Introduction

Mangrove forests are among the world's most productive and valuable ecosystems, supporting biodiversity, coastal protection, fisheries, and climate resilience. Yet, they have suffered widespread loss and degradation over the past decades. Many restoration efforts have focused primarily on nursery development and planting, but these approaches have often struggled to deliver lasting results. Without addressing the underlying stressors that caused mangrove decline, projects often plant the wrong species in the wrong place, overlook critical hydrological needs, and find it difficult to support long-term survival and ecosystem recovery.

Mangrove Action Project (MAP) is an international non-profit organization established in 1992, dedicated to the protection and restoration of the world's mangrove forests. Since 2005, MAP has pioneered its unique Community-Based Ecological Mangrove Restoration (CBEMR) approach, which combines science, local ecological knowledge and community participation, and focuses on understanding and repairing the underlying ecological and social causes of mangrove loss to improve restoration outcomes.

CBEMR workshops are designed to strengthen technical capacity, share MAP's global experience and best practices, and build community ownership of restoration initiatives. Trainings are highly participatory, blending theory with field-based exercises, and tailored to local contexts.



### **The workshops are delivered in two phases:**

- Phase 1 – Classroom-Based Learning (typically 5 days): This phase introduces the ecological and social foundations of CBEMR. It combines interactive lectures, case studies, group exercises, and one or two short field trips to build ecological knowledge and apply concepts in practice.
- Phase 2 – Field-Based Application (typically 2–4 days): This phase focuses entirely on fieldwork. Participants conduct site assessments, practice measurement and monitoring techniques, and apply the CBEMR process to real-world sites. The emphasis is on diagnosing causes of degradation and planning practical restoration activities in collaboration with local stakeholders.

Together, the two phases ensure that participants gain both the conceptual framework and the hands-on skills needed to design and implement successful restoration projects.

## **Expected Outcomes**

### **By the end of the workshop, participants will be able to:**

- Recognize the ecological benefits of mangroves and the key role of hydrology in restoration success.
- Understand and apply MAP's CBEMR best practices to local restoration projects.
- Analyze and learn from past restoration failures and successes.
- Carry out field-based biophysical and socio-economic assessments of mangrove sites.
- Develop practical restoration plans, including hydrological rehabilitation and community engagement strategies.
- Build a peer network for continued support, exchange, and collaboration.



## Workshop Topics

### **Mangrove Ecology & Biology**

- The ecological and socio-economic benefits of mangroves
- Mangrove biology: salinity, waterlogging, soils, and stressors
- Mangrove ecology: species zonation, natural regeneration, and biodiversity
- Importance of hydrology

### **Restoration Principles & Failures**

- Why conservation of existing mangroves often outweighs restoration
- Common reasons for mangrove planting failures and how to avoid them
- Case studies of successful CBEMR projects worldwide

### **CBEMR Process**

- Overview of the CBEMR approach
- Community engagement and stakeholder analysis
- Site assessment - biophysical and social data collection
- Mapping, planning, and defining project objectives
- Integrating social, ecological, and hydrological assessments

### **Field-Based Skills**

- Conducting site assessments (biophysical: salinity, pH, soils, elevation; and social: land tenure, livelihoods, pressures)
- Studying natural reference sites to guide restoration
- Measuring site elevation relative to sea level and its link to species distribution
- Planning hydrological rehabilitation and restoration activities

### **Monitoring**

- Monitoring ecological and social outcomes of restoration
- Use of time-lapse photography
- Use of transects and permanent plots
- What to measure during monitoring
- Adapting to future change

### **Practical Application**

- Group work on real or proposed restoration sites.
- Developing site-specific plans that integrate ecological and social data.
- Presentation and discussion of restoration plans.



## Find out more

MAP's CBEMR training equips participants with the knowledge, skills, and practical experience to implement effective, science-based, and community-owned mangrove restoration projects. Beyond the workshop, participants join a global network of practitioners, ensuring continued peer-to-peer support and shared learning.

### Get Involved

If your organization, agency, or community group is working in mangrove restoration and seeking more effective ways to restore degraded sites, MAP can deliver tailored CBEMR workshops to meet your needs. Get in touch to discuss further at [info@mangroveactionproject.org](mailto:info@mangroveactionproject.org)

 Learn more by watching our short films:

- [Return of the Mangroves](#) - mangrove restoration in El Salvador
- [Reimagining Mangrove Restoration in Kenya](#) - CBEMR in Kenya

