

# PROJECT BASED LEARNING

PENANAMAN MANGGROVE DI DESA TIWOHO – KABUPATEN MINAHASA UTARA

SEBUAH KOLABORASI ANTARA

POLITEKNIK NEGERI MANADO

&

PEMERINTAH DAERAH MINAHASA UTARA

DESA TIWOHO

Semester Gasal : Agustus 2023 s/d Desember 2023





## PENGAMPUH MATAKULIAH

**MAYKEL KARAUWAN  
– EKOWISATA BAWAH LAUT**



**IVOLETTY WALUKOW – AKUNTANSI**



**ALFRETS WAURAN  
– INFORMATIKA**



## Struktur Organisasi Pengelola Proyek





Profi Mitra

Lurah Desa Tiwoho:

Email:

Wa:



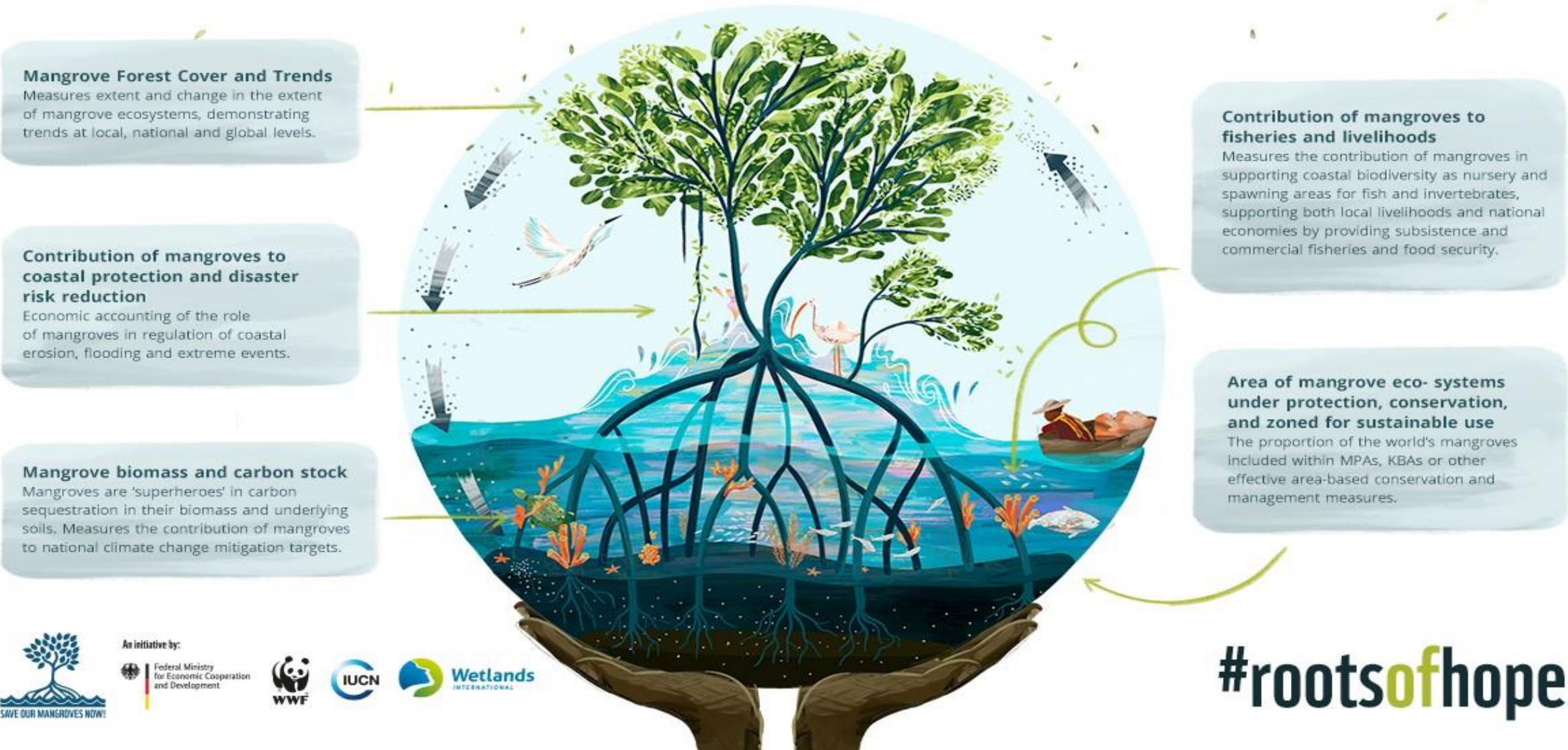
Bupati Minahasa Utara

Email:

WA:



CONTRIBUTION OF MANGROVES TOWARDS ACHIEVEMENT OF THE POST-2020 GLOBAL BIODIVERSITY FRAMEWORK'S VISION





## Business models along the mangrove transition curve





# Profil Desa Mitra - Desa Tiwoho



Lokasi:

Luas:

Pendidikan:

Penduduk:

Mata Pencaharian

Status Mangrove

Luas Mangrove:

Jenis Mangrove





# Participatory Mangrove Rehabilitation



**STEP 1**  
Local Site  
Coordination



**STEP 2**  
Comprehensive  
Site Assessment



**STEP 3**  
Participatory  
Mangrove  
Rehabilitation  
Planning



**STEP 4**  
Participatory  
Project  
Implementation



**STEP 5**  
Participatory  
Monitoring and  
Evaluation

Langkah – Langkah Penanaman Mangrove







# Video Penanaman Mangrove



Tata Cara Penanaman Mangrove Sebagai Upaya Rehabilitasi Pesisir



# Perkembangan Mangrove Dalam Masa PBL

Total basal area of tree  
and seedling density

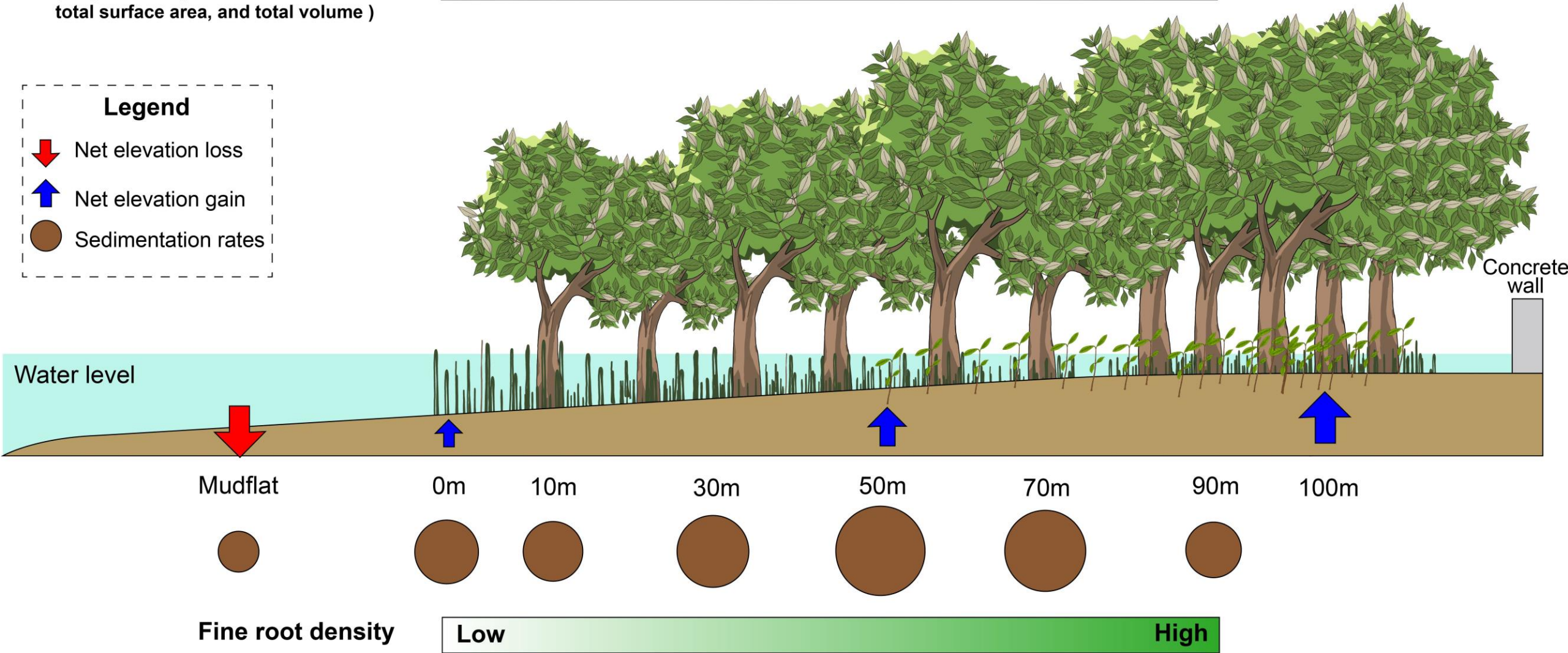


Pneumatophore characteristics  
(height, density, total basal area,  
total surface area, and total volume )



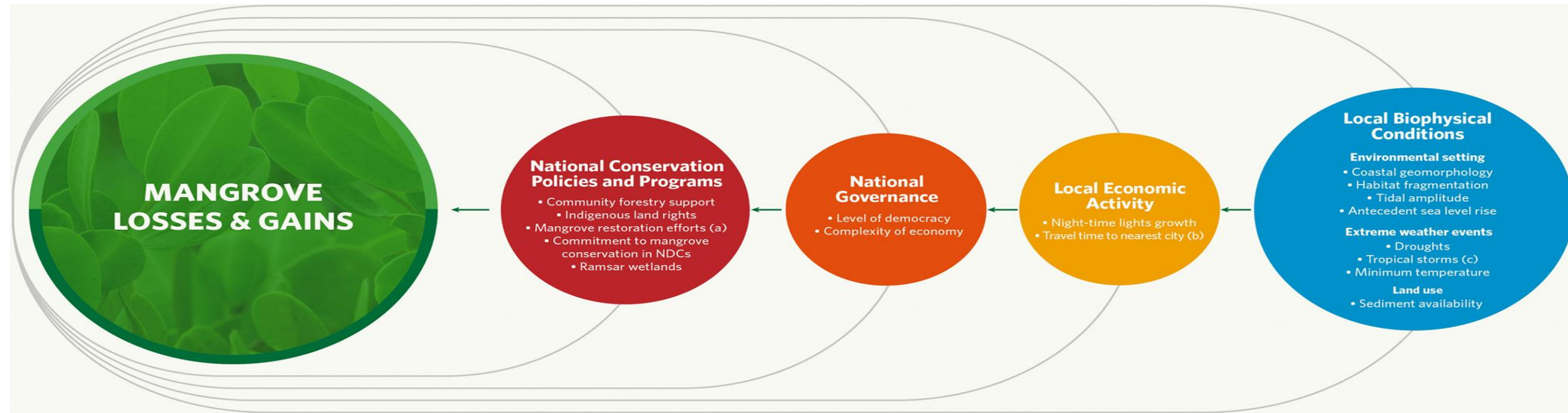
**Legend**

- Net elevation loss
- Net elevation gain
- Sedimentation rates





## Kendala & Cara Mengatasi



**Mangrove restoration efforts**



*a*

**Travel time to nearest city**



*b*

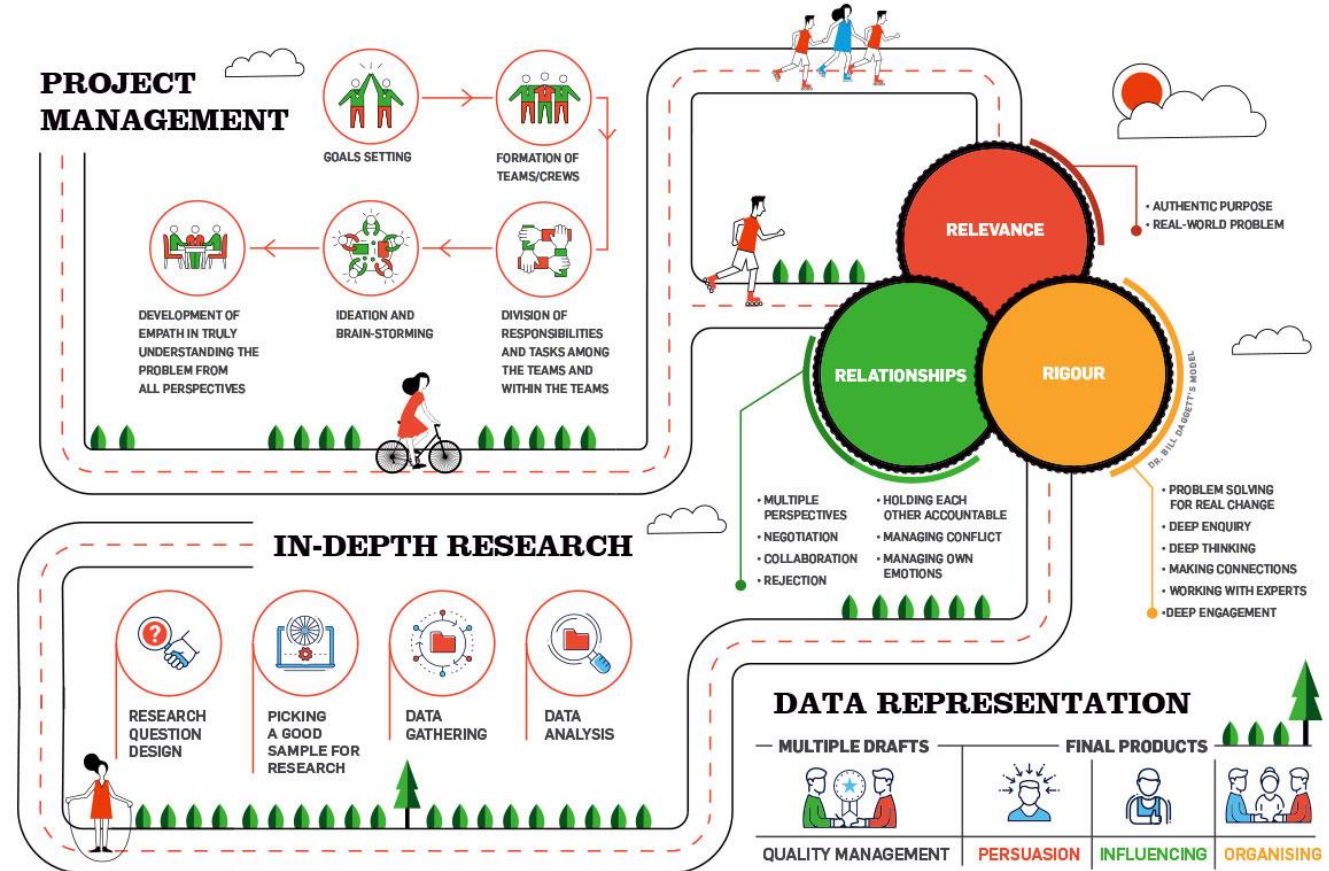
**Tropical storms**



*c*



# Learning Process & Skills



1. Learning skills (critical thinking, creativity, collaboration & communication);
2. Literacy skills (information, media, dan technology);
3. Life skills (flexibility, leadership, initiative, productivity, dan social skills)





Penutup

