

YOUTH CLIMATHON

*INNOVATIVE SOLUTIONS FOR THE ACCELERATION OF CLIMATE ACTION
IN ASIA & THE PACIFIC*

Blue Carbon Youth Rangers

“Establishing Sustainable-Integrated Mangrove Management to Support Blue Carbon Saving in Belilik, Namang, Central Bangka, Bangka Belitung Island”

Problem(s)

Climate change has caused a number of significant environmental problems, including the degradation of mangrove and coral reef ecosystems. Degradation of a mangrove - trees and shrubs that grow in saline or brackish water in coastal areas, such as Indonesia and the Philippines, impacted towards functional degradation from environmental, economic, and social aspects.

In efforts to mitigate climate change, there is the term blue carbon. It refers to carbon stored in coastal ecosystems, especially mangroves. Establishing sustainable mangrove management is able to improve the increase environmental, economic, social, and blue carbon saving.



Less data about mangrove potential and blue carbon



People not being aware of the advantage of mangrove



Lack of mangrove technology development



Aims

Economic and Health

- Raising the indigenous people income by managing a tourist attraction and selling derivative mangrove products such as mangrove chips.
- Forests healing by producing nature antioxidant.

Ecological

Creating design map of sustainable-integrated mangrove by using drone technology and learning material within metaverse technology

Society

Educating the society about the mangrove, show the impact and attract them to start a mangrove forest that can work as tourist attraction.

Target Group: Indigenous People of Belilik, Namang, Central Bangka, Bangka Belitung Island

- Indigenous people age under 18
 - Fostering their knowledge about mangrove and blue carbon knowledge
- Indigenous people age 18-25
 - Empowering them to create mangrove design map and metaverse development
 - Giving an education to use UAV as remote sensing tools in collecting mangrove and blue carbon data
- Indigenous people age 25 up
 - Empowering them to establish ecopreneurship through mangrove recreation and souvenirs



Source: perhutani.org



Source: carbonethics.org

Economic and Health Impact

5,000,000 IDR/person

3,000,000 people/year

20% reducing community hospital occupancy

Our long term goals is to improving indigenous people income up to 5 million IDR with influencing people to come: 3 million people visiting for recreation and/or healing purpose.

It will be reached by producing 100 thousands mangrove chips to visitors and blue carbon absorption performance monitoring.

As well, the starting of selling products and tickets of the mangrove forest could be a sustainable fund in the future for the project

Ecological Impact

1,000,000 metaverse users

1,000 trees/ha

1,000 CO₂/ha

Our goal is impacting 1 million people to explore and learn about mangrove through metaverse 3D technology

We will use UAV remote sensing and satellite imagery to create sustainable-integrated map planning in improving mangrove vegetation to capture 1 thousand CO₂

Society Impact

100 educated people

5,000,000 IDR/person

25% Increasing in the
knowledge

Within our project, people will get educated about mangroves and the blue carbon impacts and this will create a knowledgeable community. We will measure this impact through people behaviours toward mangroves. For starter, we aim to educate 100 people then grow more

Additionally, we will focus in creating opportunities for different groups for growing mangroves, workers in the forest such as, ticketing working group and selling tourist attraction merchandise, this will allow more green jobs for local communities, fostering sustainable livelihoods and reducing poverty.

Cost Considerations

Initial Investment:

Prototype metaverse and UAV (hardware & programming):

\$2.000 at cost

Site visitation and observation: \$500 per person

Research and development: \$2.000 at cost

Blue carbon tools: \$2.000 at cost

Infrastructures: \$5.000 at cost

Training:

Online metaverse and UAV course: \$200 per participant

Social media course: \$50 per participant

Entrepreneurship workshop: \$80 per participant

Blue carbon monitoring workshop: \$50 per participant

Ongoing Costs:

UAV battery replacements: \$50-\$150 per drone per year

UAV maintenance and repairs: \$100-\$200 per year

Website maintenance and development: \$100-\$200 per year

Blue carbon monitoring: \$100-\$200 per year

S&E ROI

- Mangrove products
- Community empowerment
- Sustainable-integrated mangrove management map creation
- Metaverse, website, and social media creation
- Blue carbon inventory and monitoring

Implementation Plan

- Site visit
- Site observation
- Society approach

JUNE 2024

Framing strategic planning based on research outcome and starting looking for funding phase I

- Community empowerment
- Facilities and infrastructure development
- Social media campaign for recreation and healing attraction
- Metaverse launching

- Sustainable-integrated mangrove management map launching
- 5 million IDR/person/month
- 3 million visitors/year
- 1 million metaverse users
- 1 hundred mangrove plants and CO2 absorption
- Sustainable working group

APRIL 2024

Data collection through collaborative research with stakeholders from society, academia, and professional

DEC 2024

- Project socialization
- Working group establishment
- Metaverse establishment
- Looking for funding phase II

DEC 2025

DEC 2027

- Focusing on creating sustainable-integrated mangrove management map
- Blue carbon inventorisation
- Grand evaluation of mangrove implementation

DEC 2030

2035

Partnerships

Partners	Aims
Government	Policy and license support
Indigenous people, academia, research institution, professional, and youth	Data collection for making strategic planning+blue carbon inventory and monitoring
Multinational and international companies and organizations	Funding support
Start-Up	Metaverse, social media, and website establishment

Strategy of Partnership:

Our strategy will start with us communicating with the Indigenous people for starting the data collection and then we will contact with the Indonesian government for the policy and the license needed. Simountainalsy, we will start to approach institutions for funding and needed support then starting the Metaverse and observing the impacts.



Team Members



Rizka Afif

Role: Team Leader (Ecological Specialist)
 Education: Forestry Undergraduate Student
 Experiences:
 World Food Forum Flagship Event 2023, COP 27, and COP 28 Delegate



Rahaf Rabbad

Role: Member (Society Specialist)
 Education: Public Relations Undergraduate student
 Experiences:
 2 times MUN delegate, ICYF participant in media camp 2023, 2023 OIC organizer



Rossita Qamara

Role: Member (Economic and Health Specialist)
 Education: Undergraduate Student Chemical Engineering
 Experiences:
 National Student Leaders on Sustainability Meeting 2023 Delegate