

# DEVELOPMENT & IMPLEMENTATION OF LANDSCAPE STRATEGIC PLAN FOR CROCKER RANGE BIOSPHERE RESERVE (CRBR)

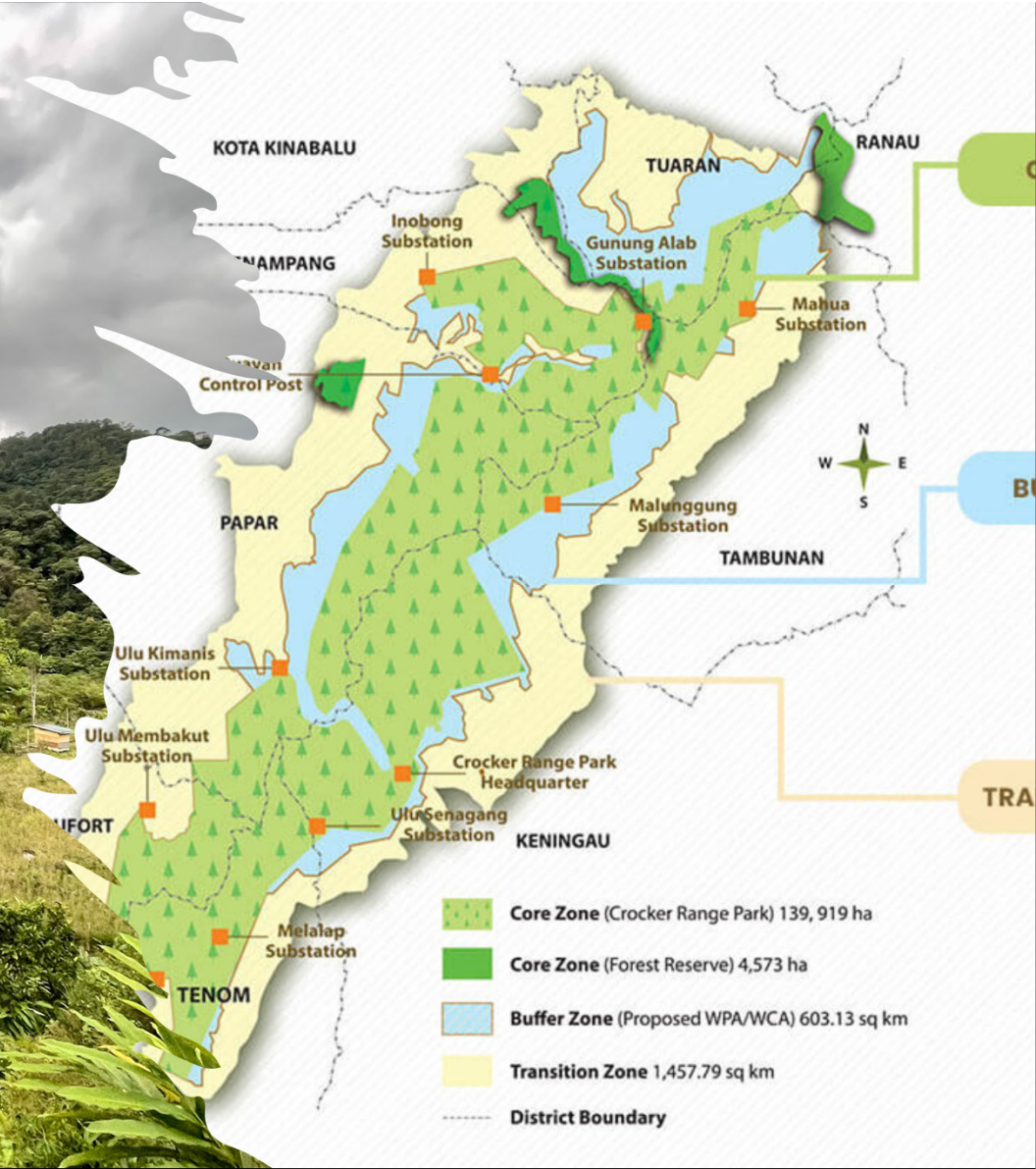
12 September 2023  
NSC Meeting  
PACOS Trust



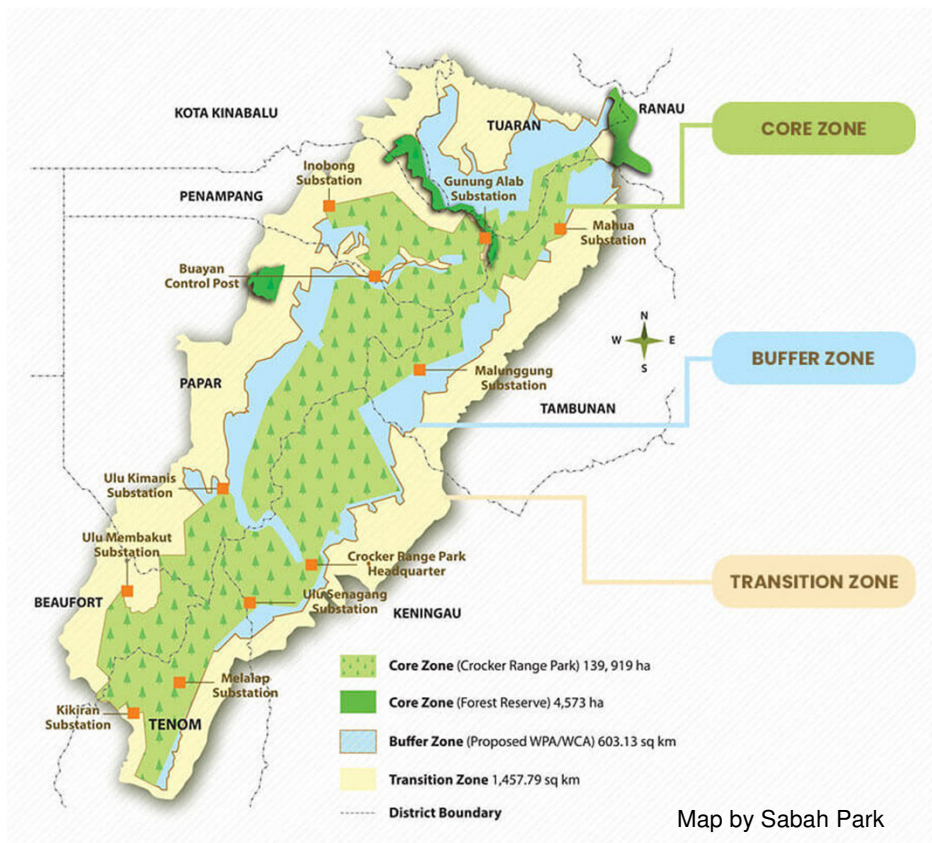
# DEVELOPMENT & IMPLEMENTATION OF LANDSCAPE STRATEGIC PLAN FOR CROCKER RANGE BIOSPHERE RESERVE (CRBR) LANDSCAPE, SABAH

MAL/SGP/OP7/YR1/STAR/BD/2022/YR1

Project Grantee: PACOS Trust  
Project Amount: USD 150,000.00  
Project Timeframe: 36 months  
Start Date: 15 February 2023  
MOA expiry date: 28<sup>th</sup> Feb 2026



# Crocker Range Biosphere Reserve



Designated in 2014, covering a total area of 350,584 ha.

Cross 10 administrative districts, namely Penampang, Papar, Kota Kinabalu, Tuaran, Ranau, Keningau, Tambunan, Tenom and Beaufort, Membakut

Made up of a variety of ecosystems ranging from hill, lowland rainforest, lower and upper montane and dipterocarp forests home to a wide range of species of flora and fauna

Estimated 99,101 people living in the three zones of the reserve with about 385 villages and 400 communities from 42 native ethnic groups and 200 sub-ethnic groups

# Objectives:

To develop a **Landscape Strategy** for Crocker Range Biosphere Reserve (CBBR), Sabah so that community organizations within the landscape can take **collective action** for adaptive landscape management in building socio-ecological resilience for global environmental benefits and sustainable development.

1. **Landscape Assessment and Develop Landscape Strategy** - Strengthened conservation of biodiversity and protection of ecosystem services through community collaborative management and sustainable livelihood interventions; and supporting SGP Malaysia for OP7 GEF grants
2. **Capacity Building** - Enhanced understanding and capacity of CBOs to plan and implement community collaborative management and sustainable livelihood interventions.
3. **Monitoring and Evaluation (M&E)** - Sustainability of project results enhanced through participatory monitoring and evaluation.
4. **Knowledge Management** - Assessing and sharing lessons learned and best practices from the Crocker Range landscape based on evaluation of implementation results
5. **Upscale Projects / Community Projects** - Community level small grant projects on strengthening participatory conservation, restoration, and sustainable use of biodiversity resources and ecosystem services.

**Year 1: Landscape Assessment And Development Strategies:**

Community consultation and baseline assessment

Consultation and engagement with local stakeholders

**Year 2 To Year 3 : Knowledge Management And Sharing**

Consolidating and highlighting best practices among communities, agencies and public



**Year 1 And 2: Capacity Building Of Community And Upscaling Community Project**

Trainings, workshops and knowledge sharing including monitoring

At least 10 communities submitting proposal

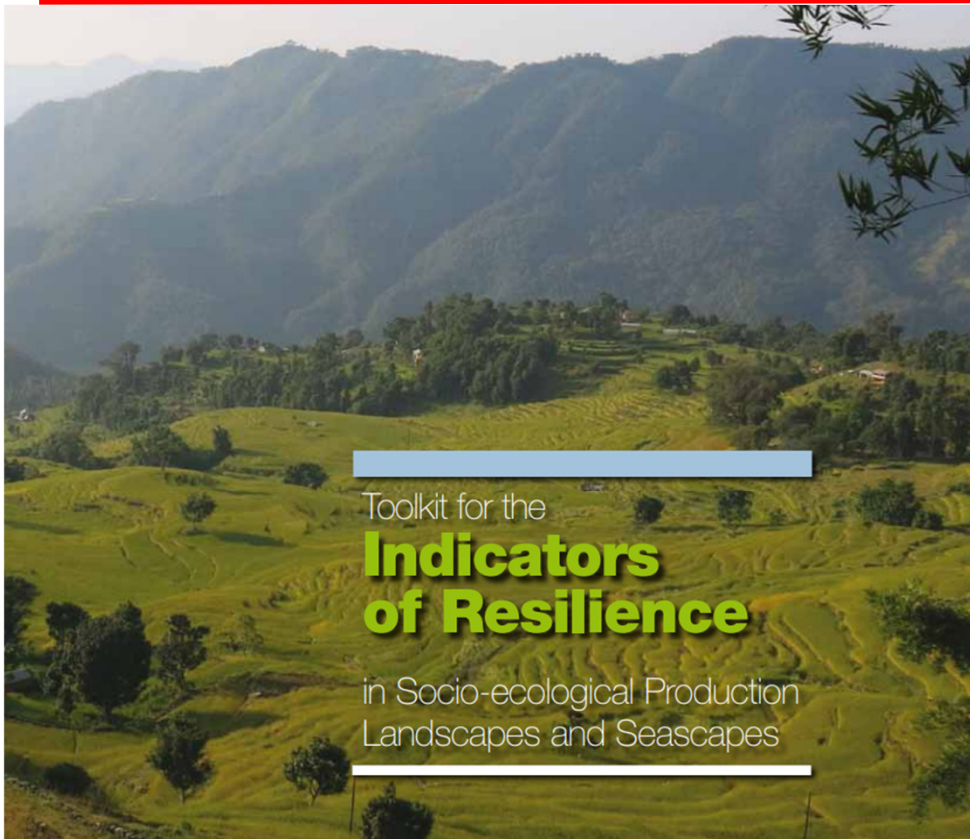
**TIMELINE OF THE DEVELOPMENT & IMPLEMENTATION OF LANDSCAPE STRATEGIC PLAN FOR CROCKER RANGE BIOSPHERE RESERVE (CRBR)**

**Landscape  
Assessment and  
Develop Landscape  
Strategy**



**Guidance for the development and implementation of community projects for adaptive landscape management of the CRBR under the seventh operational phase (OP7) of the Global Environment Facility (GEF) Small Grants Programme (SGP).**

# Methodology CRBR Landscape Assessment



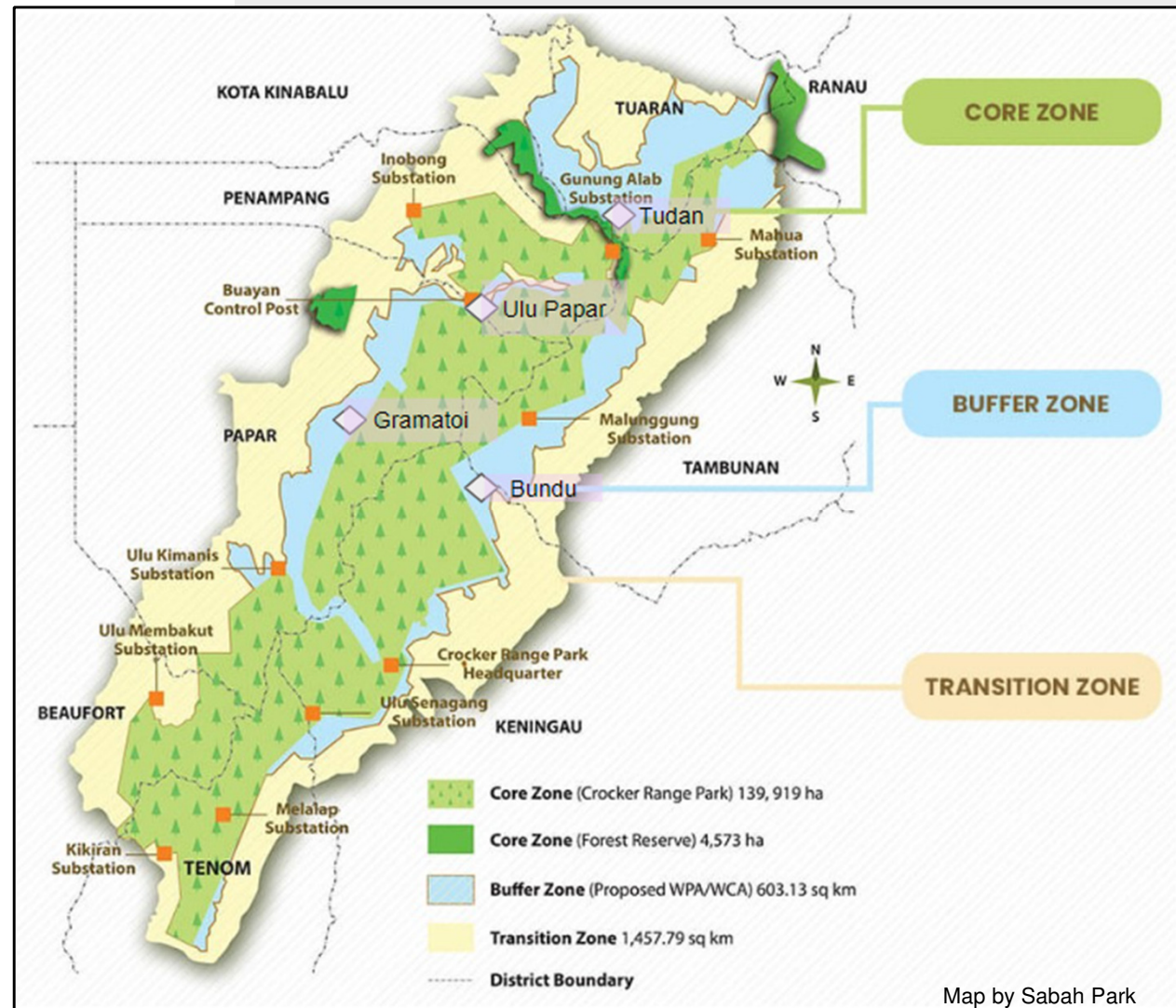
- Desktop research / past experiences
- Community Development and Knowledge Management for the Satoyama Initiative (COMDEKS) Indicators of Resilience in Socio-ecological Production Landscapes and Seascapes (SEPLS): Community workshop





# Four study areas

- Northeast CR - Tudan
- Northwest CR - Ulu Papar
- West CR - Gramatoi
- East CR - Bundu



## Community workshop conducted:

Area	Date	Communities Involved	Number of participants
Northwest of Crocker Range (Ulu Papar)	03 May 2023	Kg. Buayan, Kg. Tiku, Kg. Terian, Kg. Longkogungan	24 people (11 males, 13 females)
Northeast of Crocker Range (Ulu Tuaran)	13 May 2023	Kg. Tudan	25 people (17 males, 8 females)
West of Crocker Range	16 May 2023	Kg. Gramatoi, Kg. Ovai, Kg. Kombizaan, Kg. Bolotikon, Kg. Mandalipau	32 people (23 males, 9 females)
East of Crocker Range	05 June 2023	Kg. Rantai, Kg. Bundu, Kg. Tiga	25 people (13 males, 12 females)

# Methodology CRBR Landscape Assessment

## Preliminary Survey Identifying Case Study Areas



**Pre-Free Prior Informed Consent (FPIC) with community leader**

# Methodology CRBR Landscape Assessment

## Community Workshops in Four Case Study Areas



**Communities identify land use and territory, their challenges and needs**

# Methodology CRBR Landscape Assessment

## Community Workshops in Four Case Study Areas



Photo by PACOS Trust



Photo by PACOS Trust

**Involvement of women and taking into account women's views and voices during consultation workshops with the community**

# CRBR LANDSCAPE ASSESSMENT RESULTS

Findings of Community Joint  
Consultation

- Community awareness and capacity depends on the past program and activities
- Highly depend on biodiversity - such as forest and river resources, agriculture, histories and way of life
- Knowledge and relationship with their territories - customary practices, belief and histories - but lack documentation
- Infrastructure and roads access - some part of CRBR has limited access
- Encroachment from outsider into their territories
- Vulnerability of their food securities due to land use changes and climate change

# CRBR LANDSCAPE STRATEGY

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## **GEF-SGP Project Objective:**

To enable community organisations to take collective action for adaptive landscape management in building socio-ecological resilience in the Crocker Range Biosphere Reserve, Sabah for global environmental benefits and sustainable development

## ***Mandatory Indicator***

### ***GEF-7 Core Indicator 3:***

#### **Area of land restored (300 hectares)**

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##### Potential Areas:

- Northwestern Range: Kampung Buayan, Terian, Tiku, Longkogungan, Kalanggaan, Pongobonon, Tampasak, Togudon, Kibunut, Inobong, Madsiang, Kipouvo, Pogunon, Maang, Babagon, Moyog, Rugading, Sugud, Kolosunan
- Northeastern Range: Kampung Tudan, Tiong, Kirokot, Lokos, Patau
- Eastern Range: Kampung Bundu, Rantai, Tiga, Tikolod
- Western Range: Kampung Gramatoi, Ovai, Mandalipau, Kambizaan, Bolotikon, Kaiduan, Bisuang
- Southern Range: Kampung Senagang, Keritan Ulu
- Southwestern Range: Kampung Pangi, Halogilat

- **Vegetation restoration and reforestation:** Plant native trees and fruit trees, shrubs or grasses that are adapted and suitable to the microclimate and soil condition of the degraded site; invasive species management
- **Erosion control and soil stabilisation:** Contour bunding, vegetation/cover crop; soil improvement
- **Physical intervention and enhancement:** Create diverse habitats such as wildlife corridors, wildlife crossings, provide suitable breeding, nesting site and food source for both native and migratory wildlife
- **Water management and restoration:** Restore natural hydrology to regulate water flow and improve water quality; control soil erosion and sedimentation
- Restore and reforest **riparian reserves**
- Establish **Tagal areas** (river and forest) for restoration
- Land restoration through **agroforestry, climate-resilient agriculture, regenerative agriculture or sustainable agriculture practices**
- **Seed collection and plant/tree nursery** for land restoration



## **Mandatory Indicator**

### **GEF-7 Core Indicator 4:**

#### **Area of landscapes under improved practices (excluding protected areas) (16,000 hectares)**

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##### Potential Areas:

- Northwestern Range: Kampung Buayan, Terian, Tiku, Longkogungan, Kalanggaan, Pongobonon, Tampasak, Togudon, Kibunut, Inobong, Madsiang, Kipouvo, Pogunon, Maang, Babagon, Moyog, Rugading, Sugud, Kolosunan
- Northeastern Range: Kampung Tudan, Tiong, Kirokot, Lokos, Patau
- Eastern Range: Kampung Bundu, Rantai, Tiga, Tikolod
- Western Range: Kampung Gramatoi, Ovai, Mandalipau, Kambizaan, Bolotikon, Kaiduan, Bisuang
- Southern Range: Kampung Senagang, Keritan Ulu
- Southwestern Range: Kampung Pangi, Halogilat
- Kinabalu Ecolinc Area: Tiong, Wasai, Toboh Pahu, Toboh Lama, Lokos
- Historical trails (ecotourism): Salt Trail in Ulu Papar to Tikolod; Rapot Trail in Mandalipau to Bundu

- **Strengthen community natural resource management and build capacities for establishment of indigenous and community conserved areas** (community forest, water catchment areas, Tagal river and forest areas, community use zones, water conservation areas)
- **Establish community-based organizations** or action committees for natural resource management
- **Develop community-based monitoring and information systems** such community forest monitoring against encroachment, logging and poaching; river quality monitoring
- **Build or strengthen cooperation and networks with stakeholders** (other communities, government agencies, civil society organizations) to strengthen co-management of area, including through mutual learning exchanges and strengthen ecological connectivity with other PAs
- **Research on key intervention areas** such as wildlife population study, resource inventory, soil content, crop suitability
- **Map community areas and conservation priority areas and develop land use management plan and community protocols** for improved landscape management, planning and preservation
- **Promote and document “gompi guno” (“use and conserve”) and other traditional knowledge** and natural resource management practices
- **Secure and strengthen legal protection** over existing and proposed indigenous and community conserved areas, including advocacy for recognition of ICCAs and community NRM practices
- **Establish payment for ecosystem services (PES) system or other financing options** to provide sustainable funding for community conservation activities

## ***Mandatory Indicator***

### ***GEF-7 Core Indicator 4:***

Area of landscapes under improved practices (excluding protected areas) (16,000 hectares)

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\*Continued

- **Promote sustainable agriculture and agroecological practices** for livelihoods and enhanced land management and participatory restoration of degraded agricultural ecosystems
- **Promote cultivation of indigenous/native plants and establishment of heritage or community garden**, including documentation of varieties and seed storage, to preserve and maintain biodiversity
- **Protect and maintain riparian reserves** by avoiding disturbances in the area and maintaining diversity of native vegetative cover
- **Adopt sustainable waste management system and practices** to reduce waste and pollution
- **Promote beekeeping** as income generating activity, encouraging protection of forest ecosystem and biodiversity
- **Facilitate market access and farmer-market link** through trainings, infrastructure, logistic improvement and supply chain establishment
- **Promote non-perishable food products**, especially in areas with poor market access
- **Promote nature-based ecotourism, edutourism and agrotourism** options
- **Develop or encourage Tagal system** as part of river fish species recovery and conservation or forest conservation as well as ecotourism activities

***Mandatory Indicator, GEF-7 Core Indicator  
6: Greenhouse gas emission mitigated  
(335,000 tCO<sub>2</sub>e carbon sequestered or  
emissions avoided in the sector of  
Agriculture, Forestry, and Other Land Use  
(AFOLU) and 6,500 CO<sub>2</sub>e avoided through  
Energy Efficiency and Renewable Energy)***

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Potential Areas:

- Ulu Papar
  - Upgrade system (Kg. Buayan, Kg. Tiku, Kg. Terian)
  - Build new (Kg. Timpayasa, Kg. Babagon Laut)
  - Fuel efficient cook stoves

- **Establish community conserved areas** on existing primary or secondary forest site
- **Capacity building** for community in agriculture and land restoration
- **Enrich degraded land and/or agriculture ecosystems** by tree planting on grasslands, agroecology, agroforestry, permaculture, syntropic forestry, SRI, particularly methods that incorporate the use and generation of biochar, rehabilitation of degraded soils
- **Adopt agricultural waste management system and practices** such as composting and bio-fuel production
- **Promote crop cultivation through nature-based approaches**
- **Promote cultivation of carbon-sequestering plants** like bamboo
- **Avoid deforestation and land degradation through multi-stakeholders' negotiation and dialogues**
- **Promote fuel-efficient stoves** (rocket stoves, brick stoves, etc.) that can reduce firewood consumption
- **Establish supply chain and improve logistics** for more efficient transport of products to market
- **Development of low cost renewable and energy efficient technologies for production systems** such as solar dryer, solar pump, gravity fed water system
- **Development of renewable energy systems** such as micro-hydropower systems and solar energy that can reduce use of fossil fuel generators
- **Replacement of incandescent lamps and oil lamps** with LED lights and solar lights

## ***Mandatory Indicator***

### ***GEF-7 Core Indicator 11:***

*Number of direct project beneficiaries disaggregated by gender as a co-benefit of GEF investment (~10,000 individuals)*

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- Community efforts in sustainably managing forest, river and land ecosystems
- Upskilling of community capacities in managing forest and river ecosystems, agriculture land, socioeconomic activities
- Alternative income generation from sustainable agriculture practices including agroforestry, agroecology, beekeeping; and community-based tourism
- Sustainable harvesting of natural resources and enhancement planting for community resource uses
- Women actively participate in socioeconomic benefits activities such as processing of agriculture raw material and effective marketing
- Women empowerment in equal access and control of natural resources and participation in decision-making of natural resource governance.
- Strengthening women socioeconomic benefits and services through capacity building in skill building and marketing

## **Component 1:** Resilient landscapes for sustainable development and global environmental protection

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**Outcome 1.1:** Strengthened conservation of biodiversity and protection of ecosystem services through community collaborative management and sustainable livelihood interventions

**Indicator 5:** Sustainable management of common resources, as indicated by the number of new partnerships between CBOs and enabling stakeholders (including with NGOs, protected area management entities, private sector enterprises, government departments, etc.) for participatory conservation and restoration initiatives, disaggregated by gender

- **Identify CBOs** that are interested in participatory conservation and restoration related projects
- Provide **capacity building** in **developing project proposal, project management and implementation, reporting and financial management**
- **Build cooperation and networks with stakeholders** (other communities, government agencies, civil society organizations, private sector enterprises) to strengthen management

**Outcome 1.1:** Strengthened conservation of biodiversity and protection of ecosystem services through community collaborative management and sustainable livelihood interventions

**Indicator 6:** Strengthening gender equality and women's empowerment in control of natural resources, as indicated by the number of projects that are contributing to equal access to and control of natural resources by women and men

- Participation of women in restoration and management of natural resources and agricultural land including enhancement planting for handicraft material such as rattan and bamboo
- Capacity building for women:
  - Understanding their role and participation in equal access to and control of natural resources, especially their participation in village committees and being able to hold positions in the committee for decision making related to access and control of natural resources
  - Organic farming, agroecology and syntropic approach in managing their farmland
  - Alternative livelihood activities such as beekeeping, community-based tourism, NTFP products such as handicraft and slow foods; agriculture product processing and marketing

## **Outcome 1.1:** Strengthened conservation of biodiversity and protection of ecosystem services through community collaborative management and sustainable livelihood interventions

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**Indicator 7:** Documentation of traditional knowledge related to biodiversity, as indicated by the number of systems developed or strengthened where traditional biodiversity knowledge is documented, stored and made available to local people (e.g., traditional knowledge recordings, resource classification systems, etc.).

- Documentation of **traditional knowledge and practices related to natural resources** including natural resource management practices, resource classification systems etc.
- Development or documentation of **community protocols in resource management, governance and uses**
- Documentation of **traditional land resources**, inventory of flora and fauna species based on community knowledge, traditional use, cultural and historical story about these species
- Documentation of **traditional medicine, NTFP, handicraft and food resources**, how it's harvested and prepared, uses and customs
- Documentation of **interesting stories and traditional beliefs** related to biodiversity and natural resources that can be used for development of ecotourism, edutourism or rural tourism.
- Provide **documentation training** to the local communities on how to collect, record, verify, store and share including data security considerations on how traditional knowledge can be accessed and used within and outside the community
- Conduct **cultural identity marker workshops** to explore their customs and practices, and identify key knowledge to be preserved and documented
- **Production of media** on traditional knowledge to be used for **communication, education and public awareness (CEPA)**, including teaching materials for children and educational posters, to build understanding on importance of protecting biodiversity and traditional knowledge, and promote knowledge transfer

## **Component 1:** Resilient landscapes for sustainable development and global environmental protection

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**Outcome 1.2:** Increased adoption of renewable energy and energy efficient technologies and mitigation solutions at community level

**Indicator 8:** Livelihood co-benefits, as indicated by the number of households benefiting from alternative livelihoods supported by clean energy solutions

- Fuel-efficient cook stoves
- Micro- and pico- hydroelectric generators for off-grid communities
- Solar PV for off-grid communities
- Biogas (at community level) for cooking
- Off-grid solar-powered combined cooling, heating and power (CCHP) systems
- Gasification system & turbine generator producing both power and biochar (for use in agriculture)
- Solar pump
- Gravity fed water system for household use and irrigation

Potential areas:

- Upgrade RE existing system: Kg. Buayan (83 HH), Kg. Tiku (34HH) and Kg. Terian (47HH)
- New RE systems: Kg. Timpayasa (10HH), Kg. Babagon Laut (30 HH)
- Fuel-efficient cook stoves: Kg. Longkogungan (20HH), Kg. Pongobonon (20HH), Kg. Kalanggaan (9HH), Kg. Buayan, Kg. Tiku, Kg. Terian, Kg. Timpayasa, Kg. Babagon Laut



**Indicator 9:** Strengthened resilience and increased energy security, as indicated by the number of community level renewable energy solutions (e.g., hydroelectric generators, off-grid solar PV systems, biomass gasification generator systems) operationalized

Potential areas:

- Kg. Buayan: it may be proposed to install a new system or update and relocate the existing one (potential hydro power is 18.2 kW)
- Kg. Tiku: it may be proposed to install a new system or update and relocate the existing one (potential hydro power is 36.8 kW)
- Kg. Terian: it may be proposed to upgrade the current system (potential hydro power is 20 kW)
- Potential micro-hydropower systems (feasibility studies required): Kg. Timpayasa, Kg. Babagon Laut

**Indicator 10:** Participatory landscape management, as indicated by the number of landscape strategies developed or strengthened through participatory consultation and based on the socio-ecological resilience landscape baseline assessments endorsed by multi-stakeholder landscape platforms

- Carry out baseline assessments and draft the strategy
- Consultation on the draft strategy with stakeholders
- Formation of multi-stakeholder landscape platform
- Stakeholder engagement plan
- Knowledge management and communication plan
- Capacity building plan
- Advocacy and policy reform
- Upscale projects
- Project monitoring and evaluation

## **Component 2:** Durable landscape resilience through participatory governance, partnership building and knowledge management

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**Outcome 2.1:** Strengthened community institutions for participatory governance to enhance socio- ecological resilience

**Indicator 11:** Empowering women in natural resource governance, as indicated by the number of projects that improve the participation and decision-making of women in natural resource governance

- **Awareness raising and capacity building** for women's group in natural resource management and their participation in the village committee
- **Active participation and decision-making of women** (capacity building, training sessions, meetings etc.)
- **Engagement and consultation with women's group** to understand their perspective on their participation on natural resource governance
- **Identify capacity needs** of the women's group and **tailor specific training** for them
- **Identify possible livelihood activities** related to handicraft, farming, collection of resources from the forest and food processing which would also improve participation and decision-making of women in natural resource governance
- **Identify challenges that hinder women's participation and decision-making** in natural resource governance and find solutions

**Indicator 12:** Strengthening socioeconomic benefits for women, as indicated by the number of projects that target socioeconomic benefits and services for women

- Consultation with women on potential projects to strengthen socio-economic benefits and services
- Conduct assessment on the capacity of the women and their interest on socioeconomic related activities
- Design specific training that will increase women's capacity in socioeconomic related activities
- Improve market access for agriculture products or handicrafts for women's group
- Capacity building in sales and marketing, quality control, partnership building
- Capacity building on financial literacy and strengthening of socioeconomic benefits of women are incorporated into all regular grants as well as strategic grants

**Indicator 13:** Landscape priority actions mainstreamed into local planning instruments, as indicated by the uptake priority actions outlined in the landscape strategies into local development plans

- Engagement with local authority and seek opportunity to synergise the landscape project with local development plan
- Invitation of local authorities agencies as member of the multi-stakeholder platform

**Potential projects:**

- Sustainable agriculture of chilli, coffee, tapioca, tuhau, asam gelugor (*takob-akob*), bambangan, durian and other fruit trees, etc.
- Enhancement planting rattan and bamboo for handicraft
- Rearing of stingless bees (*Trigona* bees) in wooded regions so they can continue their important role in pollinating flowers in the forest and contribute to honey harvests
- Handicraft making
- Raw agriculture material processing, including fermented and slow foods, dried products which are easier to transport and store for longer periods of time
- Develop tree and plant nursery or backyard nurseries for reforestation/enrichment planting efforts and for sale

## **Component 2:** Durable landscape resilience through participatory governance, partnership building and knowledge management

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### **Outcome 2.2:** Enabling environment for upscaling and replication strengthened through effective knowledge management of best practices and approaches

**Indicator 14:** Mainstreaming gender equality and women's empowerment, number of women-led projects supported

- Provide capacity building in developing proposals and engagement of women in the project management and implementation
- Identify women's interests in activities and challenges that may hinder their participation
- Consult with women's organizations and groups on potential activities and possible partnerships

**Indicator 15:** Upscaling initiated, as indicated by the number of dialogues organised with government entities on upscaling best practices

- Compile best practices of successful interventions that have potential to be adopted and upscaled to be shared among government agencies
- Encourage communities of successful interventions to share about their best practices and experiences to build partnerships and support

**Indicator 16:** Knowledge shared, as indicated by the number of project and portfolio experiences and lessons systematised and codified into case studies produced and disseminated, and cumulative number of views of the case studies from the SGP website, social media, or through direct dissemination

- Capacity building for CBOs on project documentation and effective dissemination
- Each project required to incorporate knowledge management budget to document project information, lessons learnt, case study, manual, technics etc. in the form of brochure, photo stories, fact sheet, poster, booklet, guidebook etc. that can be shared in the website, social media or as print out

## Component 3: Monitoring and evaluation

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**Outcome 3.1:** Sustainability of project results enhanced through participatory monitoring and evaluation

**Proposed Indicator 1:** A system of facilitation, monitoring and evaluation is built to ensure active communication between grantees, support/host organizations and GEF SGP Malaysia

- Development of M&E tools and system to monitor projects
- Capacity building for CBOs on project monitoring and evaluation, including use of M&E tools
- Each project required to incorporate M&E budget to conduct monitoring and evaluation activities

**Proposed Indicator 2:** Capacities of CBOs to conduct M&E, as indicated by number of CBOs who have received training and project M&E reports and findings shared with stakeholders

- Capacity building for CBOs on project monitoring and evaluation
- Reports on project progress and lessons learnt prepared by CBOs



Pounsikou  
Terima  
Kasih  
Thank you



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