

Human Capacity Development

Concept and Implementation ; Filling the Gaps



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1. Introduction

1.1 Overview of the BIOCLIME Programme

Indonesia is home to the third largest area of tropical rainforest in the world. It is a global biodiversity hotspot and has the world's largest area of peat swamp forest. Continuing deforestation and forest degradation have caused rapid loss of biodiversity, particularly in Sumatra and Kalimantan where remaining forest ecosystems and their biodiversity are under threat. This is having an increasing impact on areas of peat swamp forest, which possess unique flora and fauna and are important carbon sinks. Loss of biodiversity affects ecosystems' capacity to adapt to climate change. Existing surveys are insufficient for identifying high conservation value areas with any certainty or for developing concepts for their protection. Current approaches are inadequate and lack support from local communities who are not sufficiently involved in decision-making processes regarding the establishment and management of protected areas.

The Government of Indonesia is determined to stop uncontrolled deforestation and forest degradation. With the Biodiversity and Climate Change Programme (BIOCLIME), Germany supports Indonesia's efforts to reduce greenhouse gas (GHG) emissions from the forestry sector, to conserve the biodiversity of high conservation value forest ecosystems and maintain their carbon stock storage capacities, and to implement sustainable forest management for the benefit of its people. Germany's immediate contribution focuses on supporting the province of South Sumatra in developing and implementing a conservation and management concept for lowering emissions from its forests and conserving forest biodiversity in order to contribute to the GHG emission reduction goal and the achievement of the Aichi Biodiversity Targets in Indonesia.

This Programme focuses on 4 (four) districts in South Sumatra Province, namely Banyuasin, Musi Banyuasin, Musi Rawas, and Musi Rawas Utara. The overall goal of the Programme is to preserve the biodiversity and carbon sequestration capacity of high conservation value forest ecosystem in four districts. BIOCLIME is designed for two years implementation of 2014 – 2016 with these following strategic planning:

Specific Goal	Indicator
Goal 1 Data are available for the protection and sustainable management of areas of high biodiversity, as well as for the measurement of avoided deforestation and forest degradation	Indicator 1 The responsible authorities have access to data which are needed for baseline development. (Sources: Biodiversity indicators, parameters for degradation, carbon stock data, and analysis of historical land use change)
Goal 2 Planning and decision making processes for the selection and management of protected areas are designed in a transparent and participatory manner	Indicator 2 The responsible authorities have developed a concept and a roadmap on participatory planning for the selection of protected areas and the development of protection and management concepts for selected protected areas (Sources: Concept; roadmap)
	Indicator 3 Concerns of the population directly affected (communities living in and next to selected protected areas) are integrated in the protection- and

management concepts (Sources: Comparative analysis of consultation protocols with the concept designs)

Goal 3

The capacities of local government institutions and rural communities (relevant stakeholders) for the implementation of participatory protection and management concepts are strengthened

Indicator 4

20 employees of relevant authorities are trained in methods for monitoring of biodiversity, forest degradation and carbon stocks. (Sources: Participant lists of respective trainings)

Indicator 5

20 employees of relevant authorities and supporting organizations are trained to develop pragmatic, participatory protection and management concepts as well as to facilitate participatory planning processes. (Sources: Participant lists of respective trainings)

Indicator 6

Male/female representatives of all affected communities are trained to participate in planning and implementation of participatory protection and management concepts. (Sources: Participant lists of respective trainings)

Goal 4

A participatory system for measuring, reporting and verifying (MRV) that considers the specific characteristics of the aforementioned ecosystems is developed and implemented as contribution for a national MRV (Measuring, Reporting and Verification)-System

Indicator 7

District authorities (in the Programme region), responsible for monitoring and reporting to the national GHG plan, collect data and report these data systematically. (Sources: Reports with data of the respective district authorities)

Goal 5

Alternative sources of income for the population living in and around protected areas are identified and being developed

Indicator 8

The number of households in the intervention areas who utilize income-generating measures is raised by 50%. (Sources: Baseline survey, survey at end of Programme)

To achieve these goals, BIOCLIME has designed five working packages (WP):

1. Providing baseline data for the protection and sustainable management of high biodiversity areas, as well as for the measurement of avoided deforestation and forest degradation;
2. Designing planning and decision-making processes for the selection and management of protected areas in a transparent and participatory manner;
3. Strengthening the capacities of local government institutions and rural communities (relevant stakeholders) for the implementation of participatory protection and management concepts;
4. Developing and implementing a participatory system for measuring, reporting and verifying, which considers the specific characteristics of the aforementioned ecosystems to contribute towards a national MRV system;

1.2 BIOCLIMES Objective

The overall goal of the Programme is to preserve the biodiversity and carbon sequestration capacity of high conservation value forest ecosystems in four districts of South Sumatra province. Furthermore, the Programme aims to provide the basis for low emission development, adaptation and biodiversity strategies to be used as permanent components in spatial planning procedures, which involve the rural populace and improve the livelihoods and incomes of local communities.

2. Baseline Capabilities of 5 Key Stakeholders

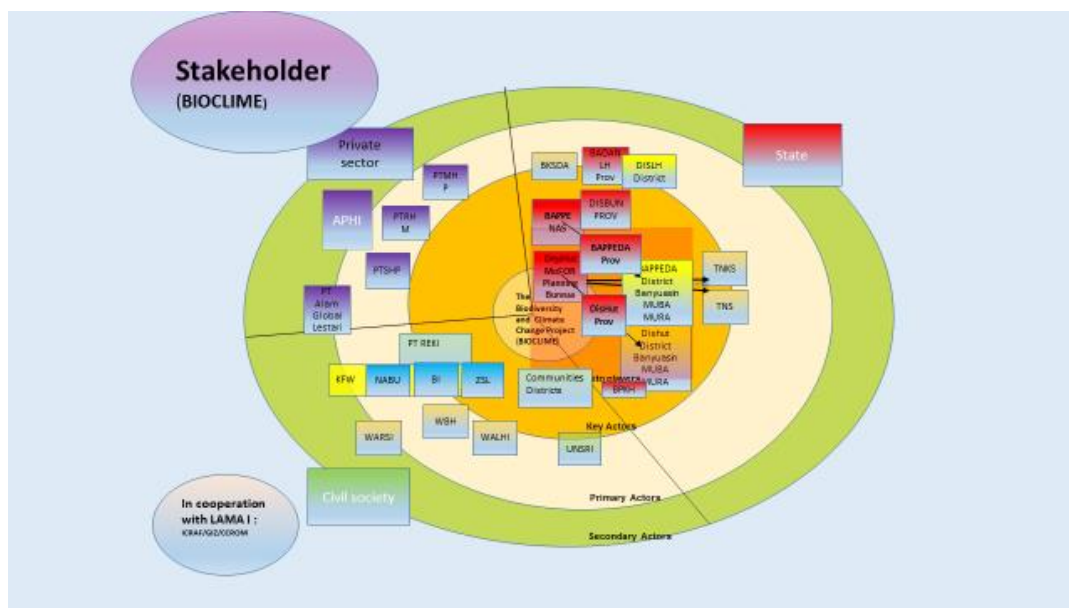
2.1 Stakeholder Mapping

In the beginning phase of the Programme implementation, it is crucial to map the stakeholders and identify main partners related to Programme activities. GIZ currently implements two Programmes which are linked in their activities and stakeholders. Besides BIOCLIME, LAMA-I (*Locally Adaptation and Mitigation Action in Indonesia*) as another GIZ Programme in South Sumatra focuses on green growth development. Therefore, synergies between the two GIZ Programmes and other green development programs in South Sumatra are to be considered including the role and function of stakeholders to avoid an overlapping approach.

The chart below is based on a first stakeholder mapping, developed by BIOCLIME in regards to the targeted objectives that have been designed. The main stakeholders of the Programme are from 5 main components and from different institutions: (a) Government institutions, include FMUS (b) Non-Government Organization/NGO, (c) University and Research Centre, (d) Private Sectors, (e) Local Community.

Meanwhile, the stakeholders, working with both BIOCLIME and LAMAI are from: (a) Government institutions, FMU (b) NGO, (c) University, and (d) Private sectors. Based on data that have been collected by BIOCLIME through series of activities, the stakeholders that have been involved in BIOCLIME are from:

- a. Government Institutions, including FMUs and UPT KLHK
- b. Non-Government Institutions (national and local)
- c. University and research centre (international, national, and local)
- d. Private sectors
- e. Local community
 - Muara Sungsang, Banyuasin
 - Pangkalan Bulian, Musi Banyuasin
 - Kepayang, Musi Banyuasin
 - Napallicin, Musi Rawas Utara
 - Karang Panggung, Musi Rawas



The issuance of government regulation UU 23/2014 regarding to FMU development redirected the activities of BIOCLIME 2014 – 2016 to focus on institutional-preparedness of FMUs in order to strengthen their capacity. Prior to UU 23/2014 FMUs were under authority of Forestry Services at district level which was shifted with all the authorities to provincial level.

In 2017 the institutional status of FMUs will be changed into UPTD (*Unit Pelaksana Teknis Dinas*) with a concept of 14 UPTD FMUs instead of 24 FMUs which means some FMUs are to be merged or applied holding system (one UPTD will manage several FMUS). Based on data collected by BIOCLIME and Provincial Forestry Services in 2016, three types of typical FMUs were identified, based on their planning documents (RPHJP), infrastructure, human resources, program and source of budget, and institutional structure and system

Typology	Description	FMUs
Typology 1	FMUs are full-operational and have a RPHJP as well as a business plan. At least half of the program and activities have been implemented	Production Forest/ FMUs : Rawas, Meranti, Lakitan, Benakat Bukit Cogong, Lalan Mendis
Typology 2	FMUs are partially-operational, have developed a RPHJP and are yet in the process to get endorsement	Production Forest/FMUs : Suban Jerisi, Unit II Lalan Sembilang Protected Forest/FMUs: Banyuasin, Dempo, Ogan Ulu, Bukit Nanti, Peraduan Gistang
Typology 3	FMUs have not developed RPHJP	Production Forest/ FMUs : Mesuji Hilir, Sungai Batang-Riding, Saka, Sungai Lumpur, Lempuing Protected FMUs: Mekakau, Bukit Nanti OKUs

2.2 Findings and Analysis

During Programme implementation, mapping towards particular stakeholders focused on issues related to natural resources management, mainstreaming biodiversity and understanding of forest conservation, business concepts and financial mechanisms including possible access to funds related to conservation and sustainable management as well as preparing the organization and broaden networks amount key players. Detailed results of the stakeholder mapping is attached to this report. In general the mapping has identified the following points:

1. The government organizations and few of NGOs have a good and sound understanding of environmental issues in South Sumatra particularly issues related to degradation, deforestation, and land/forest fires
2. Most of the NGOs have recognized potential partners and donors who can fund forest related activities, nevertheless they have limited capacity to access
3. Few NGOs in South Sumatra especially those based in Palembang, have experience in developing concepts and proposals as well as the *Logical Framework Analysis* (LFA), however strategy and cooperation with partners and donors have to be strengthened
4. Most of institutions/NGO didn't meet the requirements of a legal standard of documents such as : akte notaris, SK Menkumham, and Kesbangpol letter . These documents are needed to apply for a proposal in forest related activities.

A comprehensive analysis toward stakeholders is discussed in the attachment 1.

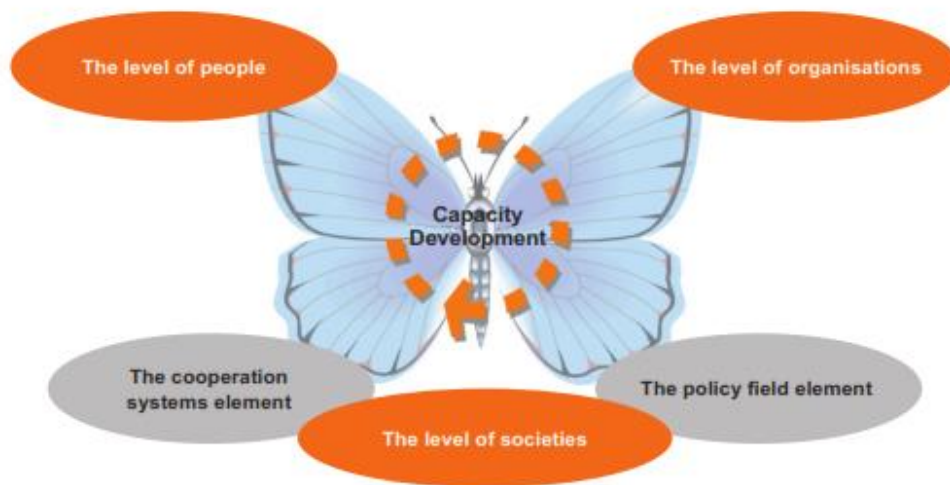
3. Human Capacity Development

Strengthening capacities of all stakeholders is one of the paramount activities of BIOCLIME while implementing a participatory conservation and management concept with a focus on biodiversity and climate change. Based on the Programme environment of BIOCLIME, capacity development is strongly related to the process of developing strategies and to the ability to adapt to changing situations and structures, including changes of institutional schemes down to the smallest unit.

In a holistic process, capacity is defined as ability of people, organisations and societies in managing the development process as well as adopting to changing circumstances. This objective has been addressed in BIOCLIMES working package 3 –Strengthening management capacities– which specifically aims to strengthen capacities of stakeholders for sustainable management of protected areas through training and other educational practices.

The chart below shows the butterfly, being GIZ’s approach and guideline on identification of capacity development. The identification focus used in this approach has three different levels: (a) the level of people, (b) the level of organizations, and (c) the level of societies. On community level, there are two important elements which are connected to each other: cooperation system and policy field

The capacity development butterfly (Capacity WORKS manual, p. 60)



In South Sumatra, BIOCLIME works with different stakeholders having a different background, namely: (1) Government Institutions – this includes Forest Management Units (FMUs), (2) Non-Government Institution, (3) University and Research Centre, (4) Private Sectors, (5) Local Community. BIOCLIME started with a stakeholder analysis to identify the role of each stakeholder in forest management. Furthermore, a needs assessment was also conducted to determine and to ensure that any activities related to capacity building supported by the Programme meets the stakeholders’ needs. This assessment also aimed to identify gaps and competences, requiring development in order to improve the performance of human resources and institutions.

The assessment showed already existing sound knowledge and experience for sustainable forest management in in several partner organisations in South Sumatra, based on the evaluation gaps were identified and necessary training contents defined. As special focus was given to relations among

parties, improved networking and interinstitutional knowledge exchange and Teams focusing on special topics. Therefore, BIOCLIME works to fill in the gap of local government institution, rural communities, and other relevant stakeholders for the implementation of participatory protection and management concept.

In conducting trainings and development of concepts, BIOCLIME is working in cooperation with the Forestry Training Centre in Bogor; an established institution which focuses on training and curriculum development. Additionally, the Programme is also in close cooperation with national and local NGOs which have experience working on capacity development for participatory conservation and management.

3.1 Training Needs Assessment (TNA) and Filling the Gap

In order to fulfil the needs of capacity development of Programme stakeholders and being in line with targets based on stakeholders needs, BIOCLIME conducted a Training Needs Assessment (TNA) in the initial phase of the Programme as the base guideline to identify needs of the stakeholders. The objective of TNA were as follows:

1. To identify the needs of skills and knowledge of the stakeholders on provincial and district level in the framework of implementation of activities in biodiversity conservation and ecosystem management.
2. To identify the needs and of skills and knowledge related to institutions at provincial and district level in regards to biodiversity conservation and which competencies should be strengthened
3. As the initial step, identifying network agents and an expert pool to be trained by BIOCLIME at district and provincial level as main partners and focal points. These people are to be focused on and to be involved individually in various training programs and guideline developments during the process of implementation in line with the Programme working plan.

The TNA was conducted by a door to door roadshow in the 4 (four) districts of the Programme area to collect information of current condition as well as the needs of each organization having topics related to BIOCLIME's objectives. In a next step a one day seminar in cooperation with Forestry Training Centre (Pusdiklat Kehutanan) Bogor was conducted, aiming to identify the needs of stakeholders accordingly to working packages of BIOCLIME. The results of the TNA are mentioned below:

1. Main programs : (a) forest protection and safeguard, (b) community development, (c) biodiversity monitoring, (d) participatory mapping, (e) stakeholders commitment, (f) availability and sharing data
2. Forest protection and safeguard including the area of high conservation value (HCV) through a comprehensive approach, covering : government commitment/regulation, social, economy, culture, and local wisdom, landscape and multi-stakeholder landscape approach
3. Identification of network agents for expert pools : government institution, NGO, university and research centre, private sectors, and local community

Source: Training Needs Assessment Workshop, September 2014. In cooperation with Forestry Training Centre/Pusdiklat Kehutanan Bogor

Result of training/non training needs based on TNA as per institution (Sept, 2014)

Group	Program Needs
Group 1 Government institutions	<ul style="list-style-type: none"> • Community empowerment • Sustainable agriculture • Management of FMU Dangku Bentayan • Income alternatives for local communities around the forest • Areal Model DAS Micro • Inventory source of Green House Gases (GRK) • Plant cultivation and diversification • Income generating activities for mangrove community (local people living in mangrove area) • Monitoring forest resources • Forest and village border (tata batas) • Benefit facilities of management area by community (ruang kelola masyarakat) • Awareness, training, patrol and ground check to prevent land and forest fire • Rationalization of industrial timber management • Human Resource Management • Activities Private Sector towards environment and impact on communities • Conflict management (encroachment) • GIS and remote sensing • Impact analysis of mining activities • Ecotourism • PPK BLUD assessment at local level
Group 2 Institution ; NGO and university	<ul style="list-style-type: none"> • Community empowerment • Coops initiation (micro finance institution) • Tiger conservation in Sembilang NP • Conservation of Dangku landscape • Permaculture Agriculture • Micro Finance • Organic Fertilizer • Mapping on land tenure • Advocacy on policy (peat swamp, REDD+, etc) • Village Forest Program
Group 3	<ul style="list-style-type: none"> • Forest protection • Management of illegal logging, restoration, animals protection • Community empowerment • Forest management • Assessment HCV – High Conservation Value Forest • Reduction emission of Green House Gasses/GRK

The assessment showed already existing sound knowledge and experience for sustainable forest management in in several partner organisations in South Sumatra, based on the evaluation gaps were identified and necessary training contents defined.



In the TNA, the Programme assessed the capacities and indicators with following indexes : (a) far from ideal condition, (b) far from ideal condition, but fulfils some criteria, (c) average, almost reaching the ideal condition, (d) ideal condition

The existing condition of the partner institution is described in the matrix in the following sub-chapter in which the identification have been divided onto 3 levels: people, organization, society

For indicator of capacity assessment please further read: Standardization capacity assessment (LAMAI, GE LAMAI, BIOCLIME, 2014)

3.2 Capacity Development Matrix

Based on the assessment BIOCLIME developed a capacity development concept. This concepts describes the existing condition of the B BIOCLIME's stakeholders and all levels of interventions. Matrix below explains information collected from BIOCLIME stakeholders about the existing condition in local level, and the recent situation in national level based on a SWOT (Strength – Weaknesses- Opportunity – Threat) analysis, developed for each level: people, organizations, society. The result of the analysis can be used to identify the existing condition and its relationship with the previous condition. For instance, still existing strength of an organization because previously GIZ has settled a Programme in South Sumatra prior to BIOCLIME, therefore the data from particular areas are available.

Based on the existing condition, the Programme designed intended changes which should be achieved in two years during the Programme period (2014 – 2016) related to capacity improvement of individuals, and support to government and society organization at local level. In addition synergies with LAMAI activities as one of GIZ Programmes in South Sumatra have also been developed to avoid overlapping in the field activities. Furthermore, the Programme also coordinated multiparty who 'play' in South Sumatra at the same issues and locus.

Identification of capacity development is described comprehensively in this following matrix:

	The level of the individual	The level of organization		The level of society
Strength, weaknesses, opportunities and threats (SWOT) in the policy field	Strengths : <ul style="list-style-type: none"> • BIOCLIME team has a strong network (internal and external) on climate change and biodiversity issues on different levels (local, national, and international level) • BIOCLIME's staff is locally experienced in South Sumatra Province • Basic data (social and economy) of the Programme area are available. Data cover : social vulnerability, poverty level, livelihoods, ecology, and climate vulnerability • BIOCLIME works on community level (not only on top decision making level, but also on grass root level) • Programme uses the newest and updated data (Eq. LiDAR, SPOT 6) • Established mechanism of sharing data through FTP 	Strengths : <ul style="list-style-type: none"> • As an international technical cooperation organization, GIZ is already well-known in Indonesia, and particularly in South Sumatra. • GIZ has already experience working on issues of forestry and climate change. BIOCLIME as one of GIZ Programmes, does not work from zero. A strong network with FORCLIME • BIOCLIME has a strong local network via stakeholders : GO, NGO, University/Research Institute, Private Sector, Local Community • Programme has facilitated/established a good relationship to village institutions in three villages • Counterparts in provincial level are equipped with GIS knowledge and tools • Programme gives support to the GIS database 	Strengths : <ul style="list-style-type: none"> • BIOCLIME is endorsed by local government (Dishut Prov SS) and central government (KemenLHK) • Many of BIOCLIME's activities have outputs on supporting South Sumatras Government for readiness to formulate a SubNational Biodiversity Strategy to support IBSAP 2015-2030 • GIZ has strong partnership with Indonesian and German universities/institutions in field of biodiversity, carbon inventory and monitoring • GIS Data is available until 2013 • Regulations are available regarding implementation of 'one map policy' • BIOCLIME has a good network with different institution having the same focus and interest in community development (RECOFT, NTFP EP, Kemasda Foundation, Pusdiklat, UNSRI, UMP) • Programme receives good support and participation from stakeholders. They allocate time and contribute 	Strengths : <ul style="list-style-type: none"> • Lesson learnt from the previous GIZ Programmes in South Sumatra (MRPP), appreciated by partners and being a basis for "data management system for carbon and biodiversity". The system has already been adopted by KLHK to become a management standard for NFI (National Forest Inventory) and other GIZ Programme in Indonesia • BIOCLIME has formulated an initial indicator set and parameter to monitor Biodiversity Status in South Sumatra which involved local people • Archive data is free from LAPAN, all imagery data is accessible • GIS data structure is available and fits with SNI (refers to Kemenhut and Dishut – Ministry of Forestry and Forestry Services at Province Level)

	<p>Weaknesses :</p> <ul style="list-style-type: none"> • Took BIOCLIME 6 month to get the full team on board • System of GIS and Remote Sensing is not comprehensive/synchronized yet • The available juknis (technical guidance) for GIS and database is too general. Not detailed. • BIOCLIME starts from an early stage to find a model for a sustainable livelihood program. The previous program in South Sumatra did not provide intended models 	<p>Weaknesses :</p> <ul style="list-style-type: none"> • Lesson learnt /knowledge resulting from previous GIZ Programme in South Sumatra has not been transferred through a comprehensive and sustainable management system after the Programme ended • BIOCLIME has not develop a general data bank yet • GIZ database system is not connected yet among Programmes (Eq. BIOCLIME, SUTIP, LAMAI) • Organisational counterpart structure is only located in Dishut, while other counterparts are not included (BKSDA, BPDAS, etc.). The 'joint implementing group' is unavailable 	<p>ideas to Programme's activities</p> <p>Weaknesses :</p> <ul style="list-style-type: none"> • Less experience in collaboration with the private sector (both national and international) in the field of biodiversity conservation and NRM, so GIZ addresses cooperation requests from the private sector very carefully. • The authority of GIS data is not clear yet ; custodian, the clearing house • GIS and remote sensing data are spread out because they are relatively easy to copy and paste • The stakeholders are not up to date, not comply to the procedures (SNI) • Stakeholders in institution and community level use pirate software • No adequate budget sharing with local government • A collaborative action with relevant stakeholders requires long time and procedures 	<p>Weaknesses :</p> <ul style="list-style-type: none"> • There are only limited resources to learn how shaping a biodiversity framework • KPH's capacity in GIS and Remote Sensing is at beginner level • BIOCLIME has not developed an effective and efficient strategy to build a strong connection within its network and for knowledge management purposes
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	<p>Opportunities :</p> <ul style="list-style-type: none"> • At least 30 people of BIOCLIME's partners/stakeholders in South Sumatra are well-trained on forest management and carbon accounting issues by the previous GIZ Programme (MRPP) • BIOCLIME is supported by stakeholders to support the implementation at local level by – for instance – <ul style="list-style-type: none"> '- Allocate Village Forest (Hutan Desa) for pilot activities '- Dedicate staff to support BIOCLIME's activities in the field • Support for initiation to produce a Perda (provincial regulation) for 'one map policy'. In cooperation with Bappeda, Dishut, and other government institution (SKPD) • Communities on village level have already an awareness of climate change issues from the previous Programme (GIZ MRPP) 	<p>Opportunities :</p> <ul style="list-style-type: none"> • Data biodiversity and carbon for South Sumatra have already been collected partially by stakeholders in South Sumatra • The need for baseline data on biodiversity and carbon is considered important for some institutions, especially the newly formed KPH, Unit of Forestry and local governments as a basis for forest management planning and development • Develop a SOP (standard operational procedures) and database training for stakeholders (Dishut, Bappeda, KPH) • In grass root level, the existence of Forest Management Unit (FMU) will be very important. The FMU – later on- will manage the development under their supervision • Village Forest Institution in Kepayang, MUBA has 	<p>Opportunities :</p> <ul style="list-style-type: none"> • Coordination on local and national level can run smoothly due to support from PIA and PEA • There are many local institutions in South Sumatra already familiar with the issue of carbon and biodiversity (Eq. BPK, UNSRI, ZSL, UMP, WBH) <ul style="list-style-type: none"> - BPK : Permanent Sampling Plot - ZSL : Tiger Monitoring - Bappeda : Custodian Data - Sinarmas/APP : Forest Conservation Policy in South Sumatra • Backup server for data spatial network in Bappeda and Dishut • KPHs employs graduated students from SKMA (Sekolah Kehutanan Menengah Atas – Forestry High School) as staffs and they are knowledgeable in GIS and remote sensing • Engagement KPH with the Programme (on the job training) • Local Government has initiated programs which are very related to Community Based Forest Management (CBFM) 	<p>Opportunities :</p> <ul style="list-style-type: none"> • Champions for carbon assessment and biodiversity management and conservation have already been identified. • Tools, protocols, and monitoring systems have already been introduced by some Programmes and initiatives (NGO, bilateral cooperation Programmes ; DHV, MRPP, ZSL) • Encouraging South Sumatra Provincial Government to adopt BIOCLIME's documents and activities as inputs for IBSAP strategy. Therefore, the Programme will gain more support from local government as well as from partners to develop the framework (getting political power) • Develop a SOP (Standard Operational Procedures) • Using open source software instead of commercial software • Potentiality to develop forest products (timber and non-timber) in the Programme areas. For instance rattan, rubber, jeletung
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	<ul style="list-style-type: none"> Identify champions (individual network agents) in province on district level for knowledge transfer among parties <p>Threats :</p> <ul style="list-style-type: none"> Stakeholders are not interested in relation between two issues; climate change and biodiversity (not comprehensive) Fix term contracts for employees in KPH (temporary contract) MUTASI Personal carousel KPH staffs from SKMA not self-confident regarding capabilities, Nontechnical guidance (juknis) for database management is unavailable 	<p>already been set up from the previous Programme</p> <p>Threats :</p> <ul style="list-style-type: none"> The institutions' capacity related to biodiversity and social data collection methodology is not balanced in four priority districts of BIOCLIME. Most of these skills are still concentrated in a few institutions (e.g. UNSRI, UMP, BPK, and others) in Palembang. Rolling staffs in SKPDs which causes capacity loss 	<p>Eq. MUBA ; people-oriented economy - <i>ekonomi kerakyatan</i>, access for forest management for local people through partnership scheme (HD, HKM, HTR)</p> <ul style="list-style-type: none"> Willingness from local communities to participate and to work with the Programme <p>Threats :</p> <ul style="list-style-type: none"> Opportunity to improve the capacity development is still limited albeit BIOCLIME's partners have knowledge and expertise, they still need support for research, field survey, etc.) No one manages GIS and Remote Sensing data in the long term Programme partner participation based on their tupoksi (main duties). Therefore, if the activities do not fit their tupoksi, they will be reluctant to join 	<p>Threats :</p> <ul style="list-style-type: none"> Unavailability of sharing data mechanism. There is also confusion to decide which data are valid to be used (how to ensure the quality) Tools, protocol, and system are not operating well. Unavailability of "one single standard" tools/protocols/system to be used Overlapping data (Eq. Forestry and Mining services are not uniform) Land tenure conflict in the Programme area (muratarata, MUBA, Banyuasin) Timing between Programme and local government in program planning and implementation is not parallel. Consequently, synchronization of activities very often gets barriers
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<p>Intended changes</p>	<ul style="list-style-type: none"> Local partner staff/experts have a strong capacity and expertise related to biodiversity and climate change, particularly on techniques or systematic observation of collecting and monitoring of biodiversity and forest biomass. Capacity of LAMA-I pokja member and Tim Kader Ahli (BIOCLIME's network agent) in bridging the process among elements (spatial planning and government decree) are improved Forest resources (timber, non-timber, biodiversity/environmental services) are identified for selected pilot areas, the possibilities to improve the economic value chain are identified based on a market analysis and the community are aware of this situation and willing to participate Income generating activities through the community based tree-and-forest product (NTFP) enterprises development are implemented 	<ul style="list-style-type: none"> Local institutions/partners in South Sumatra and four pilot districts (especially Forest Management Unit/KPH) have an equal capacity in terms of data collection and monitoring of biodiversity and forest biomass. Institutions of pokja members and TKA are supported as a policy-maker media which relates to spatial planning Solid networking between (BIOCLIME), KPH, and community as business unit for potential local products Institutional strengthening for KPH 	<ul style="list-style-type: none"> Integration activities among partners, especially related to the management and protection of biodiversity and climate change mitigation is improved in order to avoid the duplications. Willingness of the partners to exchange data and information is established as well as expertise increased and they agree on data management and information in one standard system. Jaringan Data Spasial kehutanan (JDSK) for Sub National System is developed <p>KPH → Dishut → Bappeda → National</p> <ul style="list-style-type: none"> Stakeholders at local government are able to work based on their <i>tupoksi</i> for Sustainable Forest Management in South Sumatra focused on community involvement Networking and knowledge management for CBFM and Agroforestry activities is developed 	<ul style="list-style-type: none"> All the activities or programs related to biodiversity and climate change in South Sumatra refer to a common framework and are agreed upon by all stakeholders so that overlapping of efforts can be avoided and can be more focused on filling the gap. Development model of sustainable livelihood framework which involved BPDAS, Dishut, Agriculture Services,
<p>Intervention and result hypotheses</p>	<ul style="list-style-type: none"> Facilitate partners in programs related to 	<ul style="list-style-type: none"> Provide standard mechanism for data quality assessment (DQA) of biodiversity and 	<ul style="list-style-type: none"> Build partner capacity to support biodiversity and NRM by conducting a public 	<ul style="list-style-type: none"> Development of a framework of biodiversity indicators and parameters

	<p>biodiversity and NRM (in the country and abroad)</p> <ul style="list-style-type: none"> • Develop and deliver comprehensive training manuals and modules to increase integration of biodiversity, NRM and MRV system into program design and implementation. • Create access and opportunities for partners to engage actively in the Programme implementation by participating in on-job training or mentoring. • Support student research programs from local universities • Develop 'one map one policy' concept and spatial planning which covers GIS, data maintenance, DSS/ Decision Support System to partners • Strengthen individual capacity will contribute significantly to the Programme implementation. In addition to, it functions as the knowledge investment for human development • Put attention to Tim Kader Ahli (TKA) at province and district level and involve them in Programme's activities <p>*TKA is an individual network agent from related stakeholders</p>	<p>forest biomass data which are collected by implementing partners. The objective is to understand the strengths and weaknesses, the quality, and support accuracy of measurement and reporting system.</p> <ul style="list-style-type: none"> • Develop a synchronized system among institutions : KPH to KPH, KPH to Dishut (vertical line system Improvement collaboration action among stakeholders (Dishut, Bappeda, BKSDA, KPH, Pusdik, etc) as part of 'joined implementing group' • Provide a continuous guidance to KPH and facilitate their capacity development through joint-implementation 	<p>outreach and communications baseline assessment as well as MRV system.</p> <ul style="list-style-type: none"> • Improve stakeholders networking in South Sumatra on participatory monitoring of biodiversity and NRM management • Strengthen coordination with Bappeda and Dishut by: <ul style="list-style-type: none"> - Publishing , makes <i>Pergub</i> (governor decree) concerning JDSK - Preparing JDSK through pilot JDSK - train champions, at least until 2016 (continuous training) • Facilitate capacity development of BIOCLIME partners through training, on the job training, guidance, etc which covers their tupoksi as well as CBFM issue • Strengthen local market and institution for local products/NTFPs at farmer level • Bring community to the scheme which benefits them to create partnership with multiparty <p>Eq. Develop Networking Business</p>	<ul style="list-style-type: none"> • Development of sub-regional South Sumatra Biodiversity Strategy and Action Plans • Support for <i>pergub</i> and <i>perbup</i> – governor and regional decree of one map one policy mainstreaming • Facilitate models in priority villages of BIOCLIME for NTFPs or other 'green' productive activities by involving BPDAS, Dishut, Agriculture Services, etc. • Collect required data for Enterprises Development Plan (EDP)
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	<p>(GO, NGO, university and research, private sectors, and community) who are going to be facilitated continuously by the Programme for their capacity development. TKA will be recruited based on their participation on Programme's activities and their interest on natural resource management, remote sensing, community based forest management</p> <ul style="list-style-type: none"> • Training and survey activity for Community Livelihood Appraisal 			
<p>Interaction with LAMA- I Programme (Locally Appropriate Mitigation Action in Indonesia)</p>	<p>Strengthen cooperation with LAMA-I since it has initiated Pokja (Working Group) in district level and they have equipped with good knowledge for NRM.</p> <p>Synergizing role between TKA and LAMA-I pokja member</p>	<p>Collaboration to scaling up in horizontal line system (Dishut to Bappeda and/or other SKPD)</p>	<p>LAMA-I focuses on green economy development, while biodiversity is part of the issue.</p>	<p>Develop a collaborative framework which is agreed by BIOCLIME and LAMA-I, focuses on capacity development for NRM</p> <p>Develop a collaborative framework which is agreed by BIOCLIME and LAMA-I, focuses on capacity development for spatial planning</p>
<p>Complementary interventions of other Programmes or development actors in the same policy field</p>	<p>Strengthening personal development from grass root level ; LMD- musrenbangdes, KPH, Dishut, NGO in spatial planning and forestry based issues</p>	<p>Establish joined activities with BKSDA, BPK, BPKH, etc.</p> <p>Strengthen collaboration with Bappeda, KPH, Dishut, forum tata ruang sumatra (fortras), and UPT ministry</p>	<p>Close coordination among actors :</p> <p>ZSL, REKI, other private sector HTI/APHI, mining sector, BIG, Lapan, Kemendagri, Bappenas, Ministry PU – public affair,</p>	<p>Integrate biodiversity and nature resource management issues into collaborative action plan among others (Eq. LAMA-I, Bappeda, REKI, BKSDA, etc.)</p>

		<p>To share BIOCLIME office as 'secretariat' for Forum KPH Sumsel as well as Tim Kader Ahli. Within the implementation period (2016) BIOCLIME supports the regular meeting (Eq. Quarterly)</p>	<p>MoF (Ministry of Environment and Policy)</p> <p>Establish collaborative actions with other Programmes/companies in South Sumatra (LAMAI, JICA, REKI) who share the same interest in forest (in general) and agroforestry/ CBFM (in particular)</p>	
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3.3 Knowledge Transfer Technology and Expert Pool

BIOCLIME focuses on strengthening capacity development of its stakeholders and recognizes the process as a continuous professional development. This is to enhance stakeholders proactive capacities, involving training, coaching, networking, joint learning, and knowledge sharing. In order to strengthen management capacities and to support the establishment of transparent and participatory planning and decision-making processes with a focus on biodiversity and climate change in South Sumatra, BIOCLIME works at different levels (individuals, organizations, and communities) with government institutions including forest management units (FMUs), non-governmental organizations, universities and research centres, the private sector and local communities. Following the Needs Assessment – in cooperation with Pusdiklat Kehutanan (the national forestry education and training centre). BIOCLIME continuously improves the capacities by conducting training, strengthening networking and cooperation. Curricula, modules, and guideline are developed for dissemination and scaling up. By the process, BIOCLIME addresses **The Expert Pool** or **Tim Kader Ahli (TKA)**.

Figure 1 shows the expert pool on different levels with particular issues. In Province and district level BIOCLIME has conducted many activities which eventually lead to the identification of experts in the field of Drone/Un-manned Aerial Vehicle, GIS and Remote Sensing, and Field Inventory. Furthermore, BIOCLIME is in the process of developing a knowledge and service centre by strengthening local NGO and other partners. The idea is to encourage the local partners, communities and KPHs through NGO supervision to be able to access funds for financial schemes.

On village level, BIOCLIME has trained partners in organizational strengthening, NTFPs, participatory mapping, and natural resource management. They are actively involved and act as motivators within the group (*Kelompok Tani Hutan*).

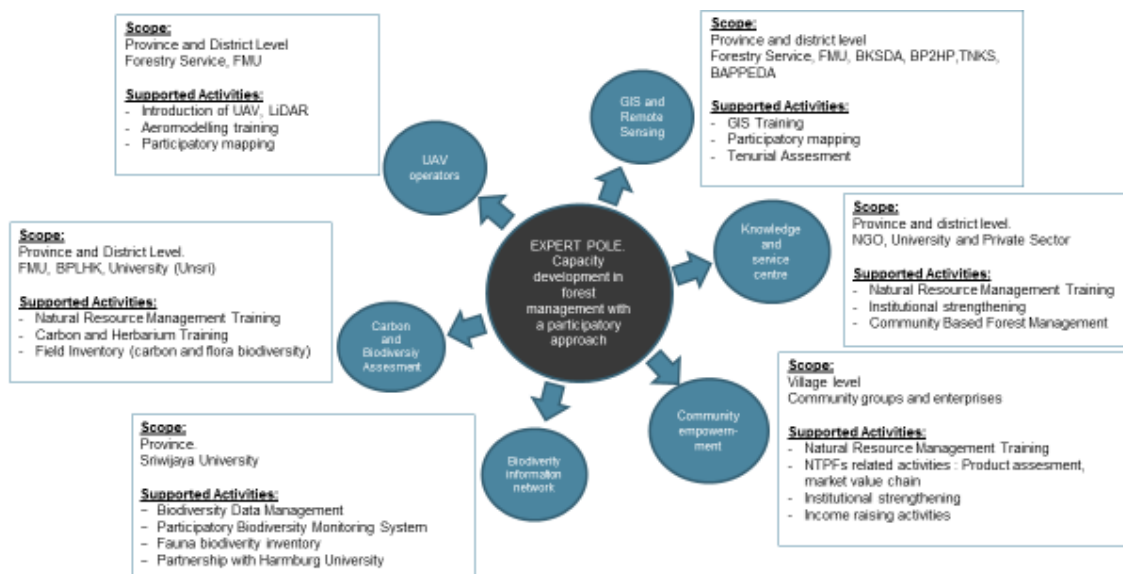


Figure 1. The expert pool

TKA is an individual agent/champion from related stakeholders (GO, NGO, university and research, private sectors, and community) who is facilitated continuously by the Programme with focus on capacity development. TKA is being involved based on participation on Programme's activities and their interest on natural resource management, remote sensing, and/or community based forest management

Figure 2 describes the process of the Expert Pool. The cooperation with *Pusdiklat Kehutanan Bogor* was built up in a training needs assessment workshop followed by an in-depth discussion with key stakeholders. Furthermore, B BIOCLIME adopts to partners' needs and develops curricula, training, modules, and guideline. In field implementation, BIOCLIME involves local stakeholders in the planning as well as in the implementation in order to establish local knowledge



Figure 2. Process of the Expert Pool

At the end of the Programme phase, BIOCLIME prepares the expert pool as the knowledge transfer medium. The Programme has conducted various activities and has adopted advanced technologies related to sustainable forest management in South Sumatra hence all data is going to be transferred to TKA. This knowledge transfer aims to support the local government to set up a participatory forest management with integrated approaches by involving the expertise from the expert pool.

BIOCLIME gathers and compiles data of stakeholders and identifies qualification based on the involvement in BIOCLIME activities. The data are described in the table with specification on: (a) Carbon Survey Team and Fauna Biodiversity (b) UAV-*Unmanned Aerial Vehicle* team (c) participatory mapping and remote sensing team, and (d) CBFM-*Community Based Forest Management* team

a. Carbon Survey Team and Fauna Biodiversity

Qualification, she/he:

- Has basic understanding regarding strategy and action plan Sumsel for IBSAP – Indonesia Biodiversity Strategic Action Plan
- Has basic experience in forest management
- Has knowledge in forest inventory, carbon counting, and biodiversity survey
- Understanding methods in collecting samples of carbon and flora biodiversity
- Able to collect field data for carbon assessment and biodiversity
- Able to conduct field surveys and supervise the local teams
- Understand the basic data of Biodiversity South Sumatra, its framework and indicators
- Able to use GPS, compass, and other navigation devices

Participation in the training and activity in the field/knowledge application

- Training on methods of carbon stocks sampling and biodiversity surveys
- Result analysis training of carbon and flora biodiversity survey
- Herbarium training for botanist of South Sumatra
- Actively involved in measuring sample plots at four type of ecosystem in South Sumatra : mangrove, Peat swamp, High Land/Mountainous, Lowland Forest (2015 – 2016)

b. UAV (Unmanned Aerial Vehicle) Team

Qualification:

- Able to operate/to fly UAV type phantom Octocopter S-1000
- Able to assembly UAV type phantom Octocopter S-1000
- Understand the basic procedure of a monitoring and report system by using UAV

Participation in the training and activity in the field/knowledge application

- Training on UAV operation + fly simulation
- Training LiDAR management and free cloud cover
- Land and forest fire monitoring

c. Participatory Mapping and Remote Sensing Team

Qualification:

- a. Familiar in using GPS (*Geographic Positioning System*), compass, and other navigation devices
- b. Has a understanding of basic participatory mapping of potential village sources (NTFPs)
- c. Has a understanding of basic tenure conflict management
- d. Able to develop fire vulnerability maps
- e. Has a understanding of the basic concept of JDSK, JDSD

Participation in the training and activity in the field/knowledge application:

- a. Participatory mapping with Dishut and KPH at (a) Pangkalan Bulian MUBA, (b) Karang Panggung Musi Rawas, (c) Kepayang MUBA, and (d) Muara Sungsang Banyuasin
- b. Hotspot and fire vulnerability map training
- c. Comparative study on data management and RBM (Resort Based Management)

d. CBFM Team– Community Based Forest Management/Social Forestry

Qualification

- a. Has a good understanding on methods and approach in identifying priority products and market analysis CLAPS and MAD – Community Livelihoods Appraisal and Product Scanning and Market Analysis and Development
- b. Able to identify village potential sources, especially NTFPs products
- c. Has a good understanding in organizational management and group dynamics
- d. Able to develop networks and guidance the forest community groups at village level
- e. Able to identify and to cluster the natural resources/products for income generating activities

Participation in the training and activity in the field/knowledge application:

- a. ToT (Training of Trainer) CLAPS – Community Livelihoods Appraisal and Product Scanning
- b. ToT (*Training of Trainer*) Market Analysis and Development
- c. AnalysCLAPS & MAD at five villages : livelihoods identification and market development of NTFPs priority, 2015
 - Muara Sungsang – Banyuasin District –Mangrove Ecosystem
 - Pangkalan Bulian –Musi Banyuasin District – Lowlands Ecosystem
 - Kepayang –Musi Banyuasin District – Peat swamp Ecosystem
 - Karang Panggung –Musi Rawas District – High Land/Mountainous Ecosystem
 - Napallicin – Musi Rawas Utara District – High Land/Mountainous Ecosystem
- d. Initiate and empowerment forest community groups at five villages, 2014-2015
- e. Training on forest ecosystem management and natural resource in a participatory way (in cooperation with Forestry Training Centre). Palembang and Lubuk Linggau, 2014
- f. RaTA Training (*Rapid Tenure Assessment*) and conflict mapping (in cooperation with Forestry Training Centre and WG Tenure) Bogor, 2015
- g. Develop and submit proposal for NTFPs development in local community business
- h. Comparative study on KPH Development and Community Partnership. Aceh, 2016
- i. Comparative Study on KPH self-reliance, funding scheme of BLUD. Kendari, 2015
- j. Training on writing proposal and Programme design. Palembang, 2015

3.4 Programme Demonstration Activities

BIOCLIME has initiated several pilot activities by involving actors which have been discussed in the previous chapter (key stakeholders). These pilot activities aim to maintain the sustainability of the programs which have been initiated by BIOCLIME with partners, so it can be developed in the future. Below are examples of Programme demonstration activities which involved multiple actors.

3.4.1 Service Centre

One opportunity is to initiate a service centre as an institution for local community groups and/or government institution to access the sources of fund from non-state budget (non APBD, APBN). The service centre is a consortium consisting of several personnel's with different background (university, FMUs, local community, etc.). Below are some activities that are currently supported by BIOCLIME:

- Identification source of national and international funds for biodiversity conservation in South Sumatra
- Link : http://BIOCLIME.org/publications/Final%20Report_HaKI_Funding%20Mechanism.pdf
- Training on writing proposals and Programme design
Link : <http://palembang.tribunnews.com/2016/03/23/giz-BIOCLIME-ajari-40-warga-buat-proposal>

BIOCLIME works together with a local NGO – Hutan Kita Institute (HaKI) to initiate a service centre which can support stakeholders in developing proposal activities, especially with global objectives to conserve forest and its ecosystem.

In 2016, through a crosscutting ministry program – Ministry of Youth (Kementrian Pemuda dan Olahraga/Kemempora) – Wirausaha Muda Pemula/Young Entrepreneurship, 2 community groups namely: (1) Tunas Harapan, Karang Panggung Musi Rawas, and (2) Citra Lestari, Napallicin Musi Rawas Utara joint a competition among other young representatives from unit businesses in Indonesia. They presented a proposal of business development in Kemempora Office, Jakarta.

3.4.2 FMU Development

Forest Management Units (FMUs) are an important part of a new a design for forest administration on local level, improving Good Governance. An FMU, by definition, is a legally established entity with clear and permanent demarcated boundaries. The FMU is responsible for ensuring that all functions and services of the forests in the area are maintained, and that Sustainable Forest Management (SFM) is implemented. It is an operational area of manageable and controllable size predominantly covered by forests. The FMU has clear economic, social and ecological management objectives and a long-term management plan closely related to the main forest functions (protection forest, production forest and conservation forest). Operational and administrative tasks are determined by long-term management objectives and by forest managers (commercial companies, communities, state forest companies) operating in the area.

Forest Management Units in Indonesia are Conservation Forest Management Units (KPHKs), Protection Forest Management Units (KPHLs) or Production Forest Management Units (KPHPs) depending on the dominant forest function of the FMU area.

KPHLs and KPHPs

Under Indonesia's national standards, norms, procedures and criteria for forest management in KPHLs and KPHPs, the FMU is responsible for day-to-day on-site forest management.

This is achieved by:

- Overseeing the whole planning and management process within the FMU area
- Monitoring and controlling the forest management plans and operations of **private forest managers (forest concession holders) and other forestry owners (e.g. under various community forestry schemes)**;
- Providing advice and services, approving, monitoring and controlling forest management plans and forest operations
- Providing advice and services, approving, monitoring and controlling forest management plans and forest operations carried out by local **communities (e.g. customary, community and village forest);ied out by local communities (e.g. customary, community and village forest)**;
- Directly **managing state forest not given to third parties** for management (e.g. 'open access' forest, protected forest, protected areas) including forest rehabilitation, reclamation, protection and nature conservation; and
- In partnership with independent bodies (e.g. NGOs) helping to **resolve overlapping forest land tenure claims** that cause **conflicts** and may threaten forest status

An FMU normally comprises a variety of forest land including:

- Areas with long-running licenses covering large areas of natural and plantation forest (HPH licenses for natural production forest, HTI licenses for industrial plantation forest, HTR licenses for community plantation forest, mining concessions etc.);
- Smaller areas of village, community or customary forests, smaller village license areas (HKMs); and
- Areas of various sizes not subject to licenses (mostly ex-concession areas with little remaining timber stock).

All these areas, despite being part of the same FMU, are managed or should be managed differently and require different approaches. In addition an FMU might cover different types of forests including conservation, protection and production forest and will be **named according to the most dominant forest type as follows:**

- **Conservation FMU** – Kesatuan Pengelolaan Hutan Konservasi (KPHK),
- **Protection FMU** – Kesatuan Pengelolaan Hutan Lindung (KPHL),
- **Production FMU** – Kesatuan Pengelolaan Hutan Produksi (KPHP).

Accordingly, the management of these FMUs will be based on meaningful long-term and short-term management plans with different kinds of management for each area.

However, significant support is needed to make FMUs operational, including the provision of sufficient human resources (competent and skilled staff), funds, methods, materials and equipment.

BIOCLIME's support to FMUs

The Biodiversity and Climate Change Programme (BIOCLIME) supports FMUs as an effective tool for improving biodiversity conservation and maintaining forest carbon stock in the districts of Banyuasin, Musi Banyuasin, Musi Rawas and Musi Rawas Utara in South Sumatra.

The support of pilot FMUs is one of BIOCLIME's major activities in South Sumatra. Through the strengthening of FMUs' management systems, optimizing their operational procedures and processes, customer orientation and knowledge management, BIOCLIME aims to improve the management of natural resources with a focus on environmental services and biodiversity. The focus of BIOCLIME's support is to:

- Maintain biodiversity in the FMUs forest areas (concentrating on High Conservation Value Forests)
- Maintain or enhance the carbon stock of the forests (High Carbon Stock Forests)
- Develop a MRV system at provincial level
- Adequately address the needs of communities in terms of managing their forests

The "forest flower" below informs about BIOCLIME's support to the different tasks of a FMU.



Picture: BIOCLIME support to Protection and Production FMUs

Forest Management Unit (FMU): Protection and Production

Administration and Sustainable Management of Forest Resources

- Management plan
- Business plan

Inventory and Forest Use Planning (FMU Inventory and national Forest Inventory – Activities FORCLIME)

- MRV System Development
 - LULUCF (Land Use Land Use Change and Forest)
 - FREL (Forest Reference Emission Level)
 - Carbon stock monitoring
 - Biodiversity monitoring
- Forest Spatial Planning
 - Spatial Forest data Network
 - Communication (infra) structure
 - Data management
 - Land use Planning
 - Fragmentation and Bio corridor Management

Forest Utilization

- Forest Spatial Planning
 - Spatial Forest data Network
 - Communication (infra) structure
 - Data management
 - Land use Planning
 - Fragmentation and Bio corridor Management
- Community Empowerment
 - Environmental services
 - Livelihoods, NTFPs, Agroforestry
 - Community Based Forest Management
 - Village Forest

Law Enforcement

- Community Empowerment
 - Environmental services
 - Livelihoods, NTFPs, Agroforestry
 - Community Based Forest Management
 - Village Forest
- Participatory Planning and Decision Making
 - Participatory Mapping, land Tenure Assessment
 - Participatory Decision Making
 - FPIC. Free Prior Informed Consent

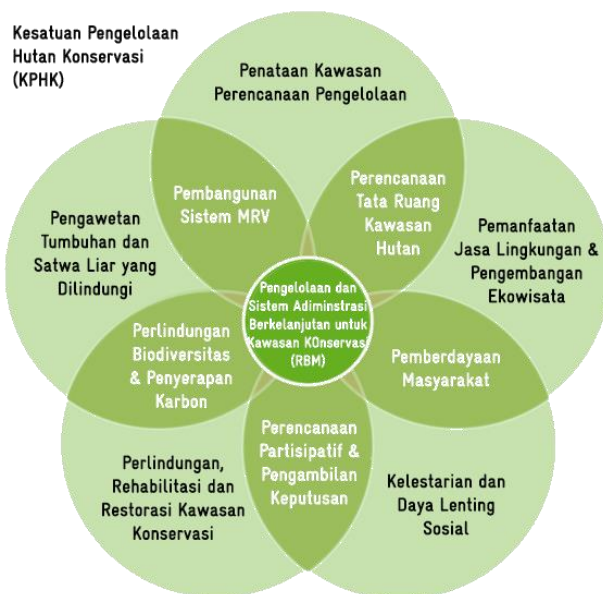
Forest Protection and Nature Conservation

- Participatory Planning and Decision Making
 - Participatory Mapping, land Tenure Assessment
 - Participatory Decision Making
 - FPIC. Free Prior Informed Consent

- Biodiversity and Carbon Sequestration Preservation
 - Biodiversity and Biomass Assessment
 - Vulnerability and Risk Assessment
 - Sub IBSAP. Indonesia Biodiversity Strategic Action Plan
 - HCV (High Conservation Value) Forest Protection
 - HCS (High Carbon Stock) Forest Protection

Forest Rehabilitation and Reclamation

- Biodiversity and Carbon Sequestration Preservation
 - Biodiversity and Biomass Assessment
 - Vulnerability and Risk Assessment
 - Sub IBSAP. Indonesia Biodiversity Strategic Action Plan
 - HCV (High Conservation Value) Forest Protection
 - HCS (High Carbon Stock) Forest Protection
- MRV System Development
 - LULUCF (Land Use Land Use Change and Forest)
 - FREL (Forest Reference Emission Level)
 - Carbon-stock monitoring
 - Biodiversity monitoring



Picture: BIOCLIME support to Conservation FMUs

Forest Management Unit (FMU): Conservation

Administration and Sustainable Management of Conservation Area (RBM – Resort Based Management)

Areal Management, Management Planning

- MRV System Development
 - LULUCF (Land Use Land Use Change and Forest)
 - FREL (Forest Reference Emission Level)

- Carbon stock monitoring
- Biodiversity monitoring
- Forest Spatial Planning
 - Spatial Forest data Network
 - Communication (infra) structure
 - Data management
 - Land use Planning
 - Fragmentation and Bio corridor Management

Environmental Services and Eco Tourism

- Forest Spatial Planning
 - Spatial Forest data Network
 - Communication (infra) structure
 - Data management
 - Land use Planning
 - Fragmentation and Bio Corridor Management
- Community Empowerment
 - Environmental services
 - Livelihoods, NTFPs, Agroforestry
 - Community Based Forest Management
 - Village Forest

Sustainability and Social Resilience

- Community Empowerment
 - Environmental services
 - Livelihoods, NTFPs, Agroforestry
 - Community Based Forest Management
 - Village Forest
- Participatory Planning and Decision Making
 - Participatory Mapping, Land Tenure Assessment
 - Participatory Decision Making
 - FPIC. Free Prior Informed Consent

Forest Protection, Rehabilitation, and Restoration of Conservation Area

- Participatory Planning and Decision Making
 - Participatory Mapping, Land Tenure Assessment
 - Participatory Decision Making
 - FPIC. Free Prior Informed Consent
- Biodiversity and Carbon Sequestration Preservation
 - Biodiversity and Biomass Assessment
 - Vulnerability and Risk Assessment
 - Sub IBSAP. Indonesia Biodiversity Strategic Action Plan
 - HCV (High Conservation Value) Forest Protection
 - HCS (High Carbon Stock) Forest Protection

Preservation of Protected Flora and Fauna

- Biodiversity and Carbon Sequestration Preservation
 - Biodiversity and Biomass Assessment
 - Vulnerability and Risk Assessment

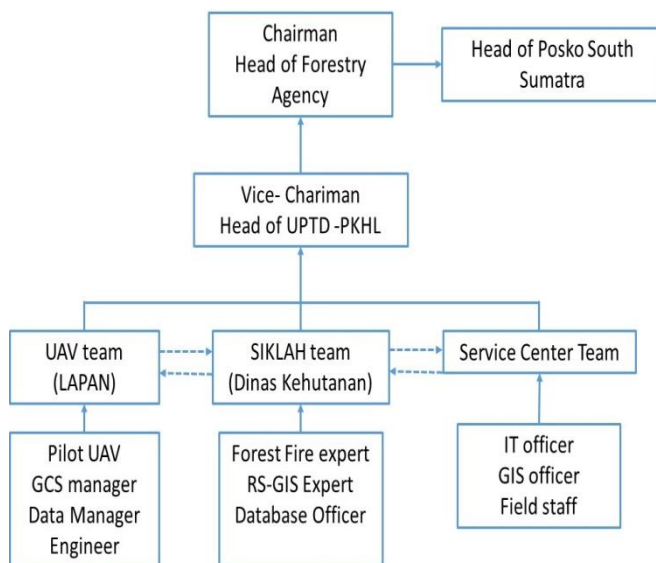
- Sub IBSAP. Indonesia Biodiversity Strategic Action Plan
- HCV (High Conservation Value) Forest Protection
- HCS (High Carbon Stock) Forest Protection
- MRV System Development
 - LULUCF (Land Use Land Use Change and Forest)
 - FREL (Forest Reference Emission Level)
 - Carbon stock monitoring
 - Biodiversity monitoring

3.4.3 UAV piloting and MRV Development

GIZ BIOCLIME has been working with the South Sumatra Province Forestry Office since 2014 and has introduced the use of Un-manned Aerial Vehicles (UAVs). In 2015, through intensive collaboration with Forest Management Units (FMUs), BIOCLIME produced a simple guide to monitoring forest and land fires using UAV applications in combination with hotspot data from the National Aeronautics and Space Institute (LAPAN).

Based on the One Map policy and the forestry MRV system implementation plan, KLHK coordinated with LAPAN to carry out forest and land fire monitoring activities using UAV technology. The main aim of these activities was to help the government with the latest technologies in order to prevent forest and land fires. Activities were focused on burned peatland area locations in the Musi Banyuasin and Banyuasin districts in the Air Hitam Laut Peatland Hydrological Unit

The main concepts of activities from August – September 2016 were hotspot data validation and air patrols over high fire vulnerability burned areas. The monitoring system applied was LAPAN's LSU-02 technology in combination with the forestry office's Forest and Land Fire Information System (Sistem Informasi Kebakaran Hutan dan Lahan (SIKLAH).



Picture. UAV system work flow for SIKLAH

Through the SIKLAH One Command concept, data/information can be reported quickly to facilitate forestry management decision making processes. Technically, this technology is more efficient and effective than land patrols for monitoring remote areas.

The results of these activities were highly beneficial in generating important near real time data for validating hotspot data in less than 2 hours. Further, air patrols were able to map the latest conditions with highly detailed 20 cm resolution images that clearly identify information on the ground. Data interpretations clearly identify human activities that are threats in relation to forest degradation and

fires, such as burned over areas, encroachment locations, illegal logging trails, wood piles and tarpaulin structures. Aerial photo mosaics also show a distribution of around 30 small, less than 10 ha burnt areas in 2016. The absence of stable internet connections in remote areas, however, can be a major obstacle, and necessitates reporting to the chairman via telephone. Pictorial evidence is sent later from the nearest concession office when an internet connection is available.

As the LSU-02 has a flight range of up to 200 km with a maximum range of 100 km on auto-pilot, in a single mission it can quickly validate hotspots that are not fires spots up to 50 km away. The outcomes of air monitoring show the latest conditions in detail for areas of 8 x 10 km² (Figure 3). In combination with the One Command system shown in the figure below, this system is highly efficient for decision making by applying the SIKLAH work flow, which connects operators on the ground with the data information centre in the South Sumatra Province Forestry Office.

Providing there is a terrestrial telecommunications network available, this system is highly recommended for monitoring forest and land fires in remote areas with difficult overland access, or in conflict regions. The central government, through KLHK, and regional governments through forestry offices and FMUs should collaborate in setting up teams that can accelerate the implementation of MRV systems and combine technologies in the interests of monitoring forest and land fires and land-use change as data for calculating carbon emissions and for sustainable natural resource management.

In a nutshell, GIZ is continuing to support local authorities in South Sumatra with human resource capacity building and a monitoring system for forest fire prevention and sustainable forest management.

3.4.4 IBSAP for South Sumatra Province

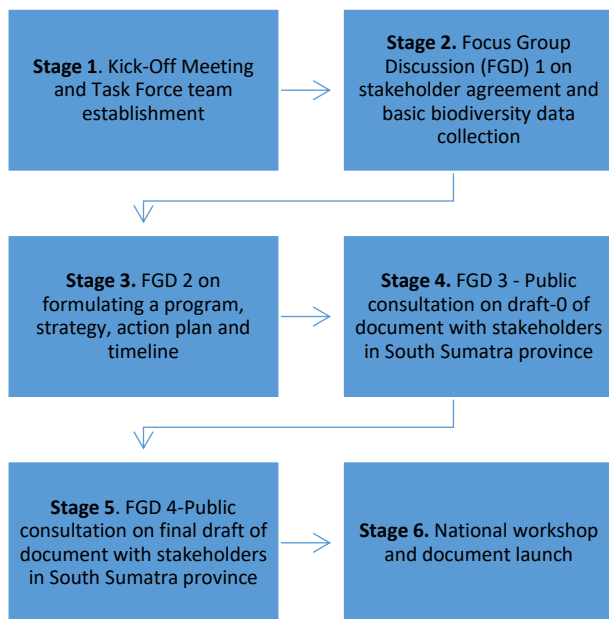
The Indonesian Biodiversity Strategy and Action Plan (IBSAP) for 2015–2020 was launched in January 2016 as an update to the previous IBSAP document for 2003–2020. This document is a national reference for the management and use of biodiversity in Indonesia that could serve as the basis for Indonesia to implement a national sustainable development program. Development of equivalent IBSAP documents at the sub-national (provincial or district) level, though not explicitly mentioned in IBSAP 2015–2020, are mandated by Law No. 23/2014 on Regional Governance. Accordingly, the preparation of this document at the provincial level could be deemed mandatory.

The ideal process for drafting a provincial IBSAP is a bottom-up process, through a series of discussions and interviews with stakeholders representing public figures, technical departments, the private sector, NGOs and universities. The process of engaging all stakeholders began with an agreement on establishing a provincial Task Force team. This was followed up with identification of the status and basic problems involved in conserving wildlife, plants and ecosystems. The final process is the formulation of an action plan and strategy agreed by all stakeholders to ensure effective and efficient implementation.

South Sumatra needs to arrange a comprehensive, effective and participatory strategy and action plan to mitigate the impacts of biodiversity loss from deforestation, fragmentation and other development schemes in the region. A Biodiversity Strategy and Action Plan for South Sumatra Province (2016–2020) is currently being developed by the South Sumatra Development Planning Agency (BAPPEDA) in collaboration with the South Sumatra Forestry Office with support from the GIZ Biodiversity and Climate Change Programme (BIOCLIME). This action plan is expected to ensure the mainstreaming of biodiversity management in all lines of development in South Sumatra, beginning with the Medium Term Development Plan (RPJMD), which will be updated in 2018, and with other subsequent development plans

The aim of developing this action plan is as a strategic step for mainstreaming biodiversity conservation. It is intended to provide guidance to all stakeholders and clarify the responsibilities of each institution in South Sumatra Province in regard to biodiversity and habitat conservation. The action plan is expected to help align and integrate plans and actions to prevent duplication of effort and funds. The development of a Biodiversity Strategy and Action Plan for South Sumatra Province is being carried out through participatory processes involving various stakeholders at the provincial and national levels.

The development stages were planned and agreed upon during a Kick-Off Meeting on 14 April 2016 in Palembang



Development stages for a Biodiversity Strategy and Action Plan for South Sumatra (BIOCLIME, 2016)

In addition to the development processes in the activity stage above, secondary data collection and desktop studies on relevant references and literature have also been conducted. Data and important documents relating to the biodiversity of South Sumatra includes data collected from the South Sumatra Natural Resources Conservation Agency (BKSDA), international institutions such as ZSL Indonesia and WWF Indonesia, and other relevant institutions.

3.4.5 One Map Policy

Sustainable Green Development is closely entwined with the need for space. This spatial management has been designed at the national and regional levels beginning specifically with land use identification to ensure synergy between needs and interests in determining regional spatial plans. In principle, proper planning also requires proper spatial data input. However, the main problem currently being faced is the absence of a mapping standard resulting in regional overlapping. Law No. 41/2011 integrates various maps into one national-level basic map (One Map Policy). Presidential Regulation No. 9/2016 has encouraged accelerated implementation of the One Map Policy with the finalization of 1:50,000 scale thematic maps in accordance with the One Map Policy acceleration action plan. These maps must be synchronized with provincial level base maps by 2019.

The process of mainstreaming the One Map Policy from the central to the South Sumatra provincial level began in 2013 with a UNDP program to establish a spatial thematic and data tabulation system.

GIZ BIOCLIME is following up by building a pilot model for synergizing forestry with the provincial spatial plan. Bappeda is carrying out a parallel process to design Sustainable Green Development concepts. As it was deemed important for the acceleration of the One Map Policy in South Sumatra, it was agreed to establish a legal standard through Governor Regulation and work procedures with a Regional Government Work Unit/Satuan Kerja Pemerintah Daerah (SKPD) as data guardian and Bappeda as the regional clearing unit. Program implementation will involve collaboration between government, donor, private sector and NGO stakeholders and a 2017 completion target divided into two stages: preparation of a legal standard including procedures, and collaborative technical implementation.

Implementation of the One Map Policy 1:50.000 scale map in South Sumatra will refer to the national policy of one geospatial reference, one standard, one database and one geoportal connecting the SKPD and Bappeda. The first stage will begin with the legal standard targeted for 2016 and followed by the development of a database with DATAKU Sumatera Selatan. South Sumatra Provincial Government collaboration with the Geospatial Information Agency and LAPAN as national imagery data providers will become valuable capital for shared collaboration supported by committed development partners who will contribute actively.

3.4.6 Community Group (Kelompok Tani Hutan)

BIOCLIME supports numbers of activities at local level and assists selected communities in developing alternative activities to generate income. With a special focus sustaining the environment simultaneously BIOCLIME started activities on grass root level by conducting a social economy survey (Socio-Economic Vulnerability Assessment and Baseline Study) in the beginning of 2014 by visiting 20 villages in 4 priority districts. Based on determined indicators, BIOCLIME selected 3 priority villages in 2014 and additional 2 villages in January 2015.

Institutional Strengthening

Groups were established in five villages: (a) Napallicin, Muaratarata (b) Karang Panggung, Mura (c) Muara Sungsang Banyuasin, (d) Kepayang, Musi Banyuasin, (e) Pangkalan Bulian, Musi Banyuasin, in order to support the local communities in their income generating activities. Members of the groups were trained in:

- Organizational management : the organizational roles, committees, networks, etc
- Establishment of a decree from local government (head of village) for group legality
- Developing a code of conduct (Anggaran Dasar dan Anggaran Rumah Tangga)

In the meantime, the groups were empowered to perform group administrative activities by conducting regular meetings among the groups member and to establish credit saving schemes.

Having a legal document and the ability to build an organization, the community group 'Tunas Harapan' in Karang Panggung village has been registered in Bakorlu Musi Rawas (an Institution under Agriculture Service) which makes this group eligible for participating in governmental activities under Ministry of Agriculture programs.

Meanwhile, the community group Citra Lestari at Napallicin has developed a proposal to the Ministry of Youth for business development of Non-Timber Forest Products. <http://www.forumkewirausahaanpemuda.com/2016/11/bangkit-dari-krisis-karet-sapikzal.html?m=1>

Livelihood Improvement

One of BIOCLIME's indicators is to support local income generated from NTFPs development and to increase income up to 50% from the initial condition. The Programmes approach was to start with the tools 'Community Livelihoods Appraisal and Product Scanning (CLAPS) and Market Analysis and Development (MA&D) to assess and to identify potential products to be developed with market

based indicators. Criteria were set up to define the priority products of NTFPs forest and non-forest as follows:

Criteria and indicators to define priority NTFPs (non-forest)

1. Abundance
2. The plant-conformity and bio physics
3. The NTFPs persistency towards drought
4. The availability of access input
5. Source of seed plants
6. Harvest methods from forest
7. Knowledge in cultivation and maintenance
8. Budget

Criteria and indicators to define the priority NTFPs (forest)

1. Difficulty level to harvest
2. Distance from village to the forest
3. Regeneration, sustainability
4. Relationship with forest management

Results from CLAPS study

Priority Village (Ecosystem type)	FMU Area	NTFP		NTFP Priority
		Forest	Non Forest	
Muara Sungsang (Mangrove)	FMU Protection Banyuasin	Shrimp pond Fish ponds (bandeng) Nipah (local name)	Coconut Corn Banana	Shrimp Coconut
Pangkalan Bulian (Lowlands)	FMU Conservation Dangku (Non Taman Nasional)	Rattan Honey from wild bee (Sialang honey) Bamboo	Durian Rubber	Rattan Honey Durian Rubber
Kepayang (Peat swamp)	FMU Production Lalan	Resin Durian (durian daun) Pandanus	Pineapple Banana Cassava	Resin/Kemenyan Pineapple
Karang Panggung (Mountainous/high land)	Kerinci Seblat NP	Pakis (local name) Jengkol (local name) Risi (local name)	Coffee Durian Banana	Coffee Durian
Napallicin (mountainous/high land)	Kerinci Seblat NP	Bamboo Mountain water Rattan/Manau	Rubber Patchouli Jengkol (local name)	Patchouli Bamboo

Coconut Production in Muara Sungsang Village, Banyuasin

The initial activity conducted in this village was identification of potential commodities, group organization management and strengthening the capacities of group members through series of trainings. Result of the NTFPs identification which could be developed with a market based approach were: coconuts, corn, nipah (palmae plants), shrimp, and fish (bandeng).

The participation in series of trainings brought changes in skill-knowledge and the mind-set/ in people's view related forest. To initiate a business unit, the group decided to develop 'nata de coco' production in a household production scheme. This knowledge is adopted from the Agriculture Faculty

of Sriwijaya University which introduced the methods in producing nata de coco through two training series. Furthermore, with support from KPHL Banyuasin, the group will extend this business by developing 'liquid smoke' from coconut shells.

The diversification from coconut products in Muara Sungsang Banyuasin has already started by submitting proposals from the community group Muara Sungsang mandiri, budget validation, supply from materials shop.. Per 2016, the processes have been finished with the supply of materials to develop a coconut house.

Furniture from Rattan in Pangkalan Bulian Village, Musi Banyuasin

BIOCLIME emphasizes the development of community-based timber and forest product enterprises by using tools like community livelihood appraisals and product scanning, as well as market analyses. In the village of Pangkalan Bulian, rattan and honey were identified as beneficial NTFPs.

Rattan is the name for the roughly six hundred species of palms in the family 'Calameae', native to tropical regions of Africa, Asia and Australasia. Most rattans are distinct from other palms in having slender stems with 2-5 cm diameter and with long internodes between the leaves; their consequent growth habit also differs, not being trees but vine-like, scrambling through and over other vegetation (NA, t.thn.).

The raw material of rattan can be used in manufacturing furniture, baskets or mats. The picture below shows rattan products made by the local community in Pangkalan Bulian



Rattan grows much more quickly than most tropical trees. Harvesting is relatively uncomplicated, requiring only simple tools, and its transportation is manageable. Its economic value can, therefore, help to protect forests by providing an alternative source of income for those who might normally log timber. (ibid)

The development of a Rattan Production in Pangkalan Bulian is one of the actions with focus on local communities to protect forests from fire because this is the place where they rely on to harvest the rattan. As selected group was trained how to develop rattan materials into furniture sets. Through cooperation with the local government, the group build a workshop and the village contributed 500 m2 land for the workshop, while the materials/tools/equipment were supported by BIOCLIME through mechanism of Financial Agreement and involving local NGOs as implementers.

Organic Coffee Production in Karang Panggung, Musi Rawas Utara

In addition to rubber, coffee is one of the main commodities in the Selangit Subdistrict region. Many villagers were planting coffee, but now it becomes a flagship commodity for Musi Rawas district. Up

to now villages sell their coffee beans to meet the needs of coffee processors in and around the town of Lubuk Linggau where coffee beans are ground in factories to make coffee powder without involving local communities.

Seeing enormous untapped potential, GIZ – BIOCLIME and Lakitan KPHP (FMU) held a training program on Market Analysis and Development. The training, which involved village communities from around the forests, including Karang Panggung village, aimed to identify and explore business opportunities from non-timber forest products with economic value, high market demand and the possibility for development as community enterprises. The outcome was coffee becoming a flagship commodity.

One of GIZ – BIOCLIME and Lakitan KPHP's (FMU) objectives was to try to increase the earnings of communities living near to forests. With community oriented commitment, they helped to develop the 'Tunas Harapan' farmer group with a business model focusing on organic coffee bean processing from harvesting to marketing.



In addition to producing organic coffee, the Tunas Harapan farmer group also produces SELANGIT LUWAK COFFEE. Luwak (**civet**) coffee, refers to the coffee that includes part-digested coffee cherries eaten and defecated by the Asian palm civet. The wild civet species eating coffee in the Selangit sub district region is identified as species *Hemigalus derbyanus*. Many of these palm civets, with markings like a Tasmanian tiger, are living inside the 'Kerinci Seblat' National Park. The nocturnal animal only eats the best fresh, ripe, red coloured coffee cherries. Communities around the forest are highly fortunate to have these animals living wild in the nearby forests. To ensure they can continue to produce LUWAK coffee, the villagers are committed to protect the civets by refraining from hunting, and preserving their forest habitat in the region.

Nilam Cultivation and Atsiri Oil Production in Napallicin village, Musi Rawas Utara

The community of Napallicin village realized in the past that there is a significant decline of the rubber price in the market. In 2016, the price was IDR 4000/kg, almost half of the previous year. The farmers who are planting paddy have had some bad harvest seasons as well due to climatic reasons and/or pest attacks. In addition some groups committing illegal logging are realized that the results from logging are not equal with the effort going deep into the mountainous forests to cut the logs.

Since 2014, the community relies on Non Timber Forest Products (NTFPs) as new commodities to focus on. The process started with the initiation of local community groups and business centres as well as identification of the priority commodities, cultivation techniques and marketing products. At this moment, there has been build a new a small scale unit for ATSIRI (Patchouli) distillation process. The raw material of ATSIRI plants are harvested from the village community which at least has 0,75 ha per each HH



In 2016, the district government of Musi Rawas Utara got aware of this business and supported the local groups and the FMU Rawas in order to develop the district as NILAM centre. Therefore, the local authorities already supported one unit distillation machine with a huge capacity (around 200 kg dried leaves per distillation process). The main target for 2017 is to develop a broader market access and the University of Sriwijaya is now developing an improved value chain and community business plan for Nilam.

4. Exit Strategy and Knowledge Management

4.1 Support to Learning Networks

- **FMU Forum of South Sumatra**

BIOCLIME is actively working with 7 (seven) Model FMUs model South Sumatra which are also representing the different types of forest like Production, Conservation, and Protection Forest. The FMUs are: (1) Production Forest FMU Lalan (2) Production Forest FMU Meranti (3) Production Forest FMU Lakitan (4) Production Forest FMU Benakat Bukit Cogong (5) Production Forest FMU Rawas (6) Conservation Forest FMU Dangku Bentayan (7) Protection Forest FMU Banyuasin.

One of the important output in BIOCLIMEs working packages is to support these FMUs in their development regarding role, capacity, and responsibility. Following up this purpose, BIOCLIME initiated series of meetings in 2014 with the heads of FMUs in South Sumatra and agreed to establish a FMU Forum for South Sumatra which was launched on November 2014. This forum aims to act as a platform of knowledge exchange among FMUs in South Sumatra, not only among the seven FMUs directly supported but also including other FMUs in South Sumatra. Below are the important information related to vision and mission as well as the committee structure of the FMU Forum:

VISION: "As a media of capacity empowerment for FMUs in sustainable forest management"

Mission:

1. Building up an information data centre for FMU Sumsel
2. To support institutional of sustainable FMUs (human resource, operational, funds)
3. To support regulation/policy regarding FMUs

Committee structure:

Supervisor	: Head of Forestry Services of South Sumatra (ex-officio)
Head of forum	: Neneng H Leilana
Secretary	: Udi Setiawan
Treasure	: Nia Kurniasih
Information Division	: Andriyansyah, Andi Permana
Policy Division	: Edi Cahyono, Wan Kamil
Institutional Division	: Amsyarudin
Secretariat	: GIZ BIOCLIME Office Palembang

The FMUs was strengthened in in the role, capacity and responsibility related to:

- a. Biodiversity management and MRV Carbon
- b. Community Based Forest Management (CBFM) and partnership
- c. Database management
- d. Business plan

BIOCLIME agreed with each FMU to support one defined target and to translate this into a business and activity plan for the FMU with special consideration of local communities in order to increase the participatory approach.

No	FMU	Priority Activity
1	Production Forest FMU Lalan	Honey from forest bee Village forest development (Hutan Desa)
2	Production Forest FMU Meranti	Developing database Honey from forest bee
3	Production Forest FMU Lakitan	NTFPs Development Jelutung, rubber, montong durian
4	Production Forest FMU Benakat Bukit Cogong	NTFPs Development Agroforestry Rubber and Resin Agarwood (Gaharu)
5	Production Forest FMU Rawas	Conflict management in mining activity
6	Conservation Forest FMU Dangku Bentayan	Development of Village Conservation Model (Model Desa Konservasi). Ds. Berlian Jaya Kec. Tungkal Jaya, MUBA
7	Protection Forest FMU Banyuasin	Agrosilvofishery Jelutung, mangrove, and Soka crabs

In 2016, Forestry Services South Sumatra and BIOCLIME invited the heads of FMUs of South Sumatra to get an overview about the existing status and 'quo Vadis' of FMUs South Sumatra. This meeting aimed to discuss the institutional set up of FMUs after the implementation of regulation UU 23/2014:

1. FMUs in South Sumatra :
 - a. Type A : FMUs already running operationally with own RPHJP (development planning) and business plan. Some activities in parts implemented.
 - b. Type 2 : FMUs running partially and having developed a RPHJP, but still waiting endorsement
 - c. Type 3 : FMUS not having developed a RPHJP yet and in waiting position of organization implementation of UU 23/2014
2. Support of FMUs for Badan Layanan Umum Daerah/BLUD (Local board for public services)
3. Support Forestry service and FMUs to further analyse the best institutional set up for FMUs as UPTD/SKPD
4. JDSK implementation as a system to support MRV – Monitoring reporting and Verification from FMUs to Forestry Services
5. Communication platform for sharing experiences/ Intranet

After learning from FMUs experience in Aceh and Sulawesi, Forestry Services has prepared a new institutional design for FMUs in South Sumatra to become an UPTD in 2017.

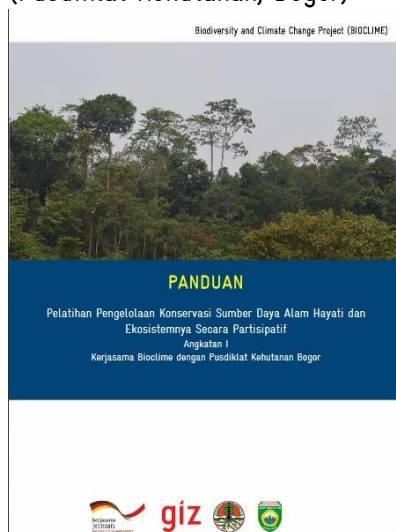
- **Website FMU Forum**

FMU forum has been socialized on occasion of the coordination meeting of heads of FMUs in Sumsel and been presented as a knowledge sharing media for all FMUs in South Sumatra. In 2014, BIOCLIME supported the FMU Forum to develop a website www.forumkphsumsel.org as a knowledge sharing platform. The website is managed and maintained by the chairmen of the Forum and BIOCLIME supported the FMU Forum with a website management training. In 2017, the website will be handed over to Forestry Services.



4.2 Scaling up

- Development of curricula and syllabus, in cooperation with Forestry Training Centre (Pusdiklat Kehutanan, Bogor)



BIOCLIME is in close communication with the Forestry Training Centre in Bogor (PUSDIKLAT) with focus on developing training curricula. BIOCLIME implemented three training using two syllabus of Pusdiklat. Topics: Training on participatory conservation of natural resources and ecosystems, rapid appraisal on land tenure conflict. The training were conducted in collaboration with the training centre as well as with WG (working group) Tenure. The syllabus were modified by adjusting the existing curricula used in the training centre.

- Training module development
During the period of 2014 – 2016 there are 82 training/workshop and other activities that have been conducted with the involvement of local stakeholders in South Sumatra (including the TKA). Most of the training provide guideline/manual/hand book for participants and these training materials were distributed to BIOCLIME's stakeholders. The Programme addresses the replication of the similar training to be disseminated by other partners or local authorities.

Below are list of training modules developed by the Programme to be accessed via the BIOCLIME website <http://BIOCLIME.org/index.php/en/media-center/publications>

Theme : Biodiversity and Nature Resource Management

1. Participatory Nature Resource Conservation and Forest Ecosystem Management
2. Carbon Survey and Biodiversity Flora Surveys
3. Protocol for the measurement of carbon stock and biodiversity in South Sumatra
4. A Framework on Biodiversity Indicators and Parameters for Multipurpose Monitoring System in South Sumatra

Theme : GIS, Remote Sensing, Unmanned Aerial Vehicle (UAV)

1. Basic Training. Introduction use of UAV in forestry sector
2. Participatory Mapping (NTFPs and Tenurials)
3. Participatory Mapping. Land Use Inventory and Sustainable forest resources
4. Forest monitoring using Unmanned Aerial Vehicle (UAV)
5. JDSK. (Forest Spatial Data Network) management in South Sumatra
6. Hotspot monitoring
7. Land and Forest Fire Vulnerability Map
8. Protocol. Quadcopter for Forest Monitoring

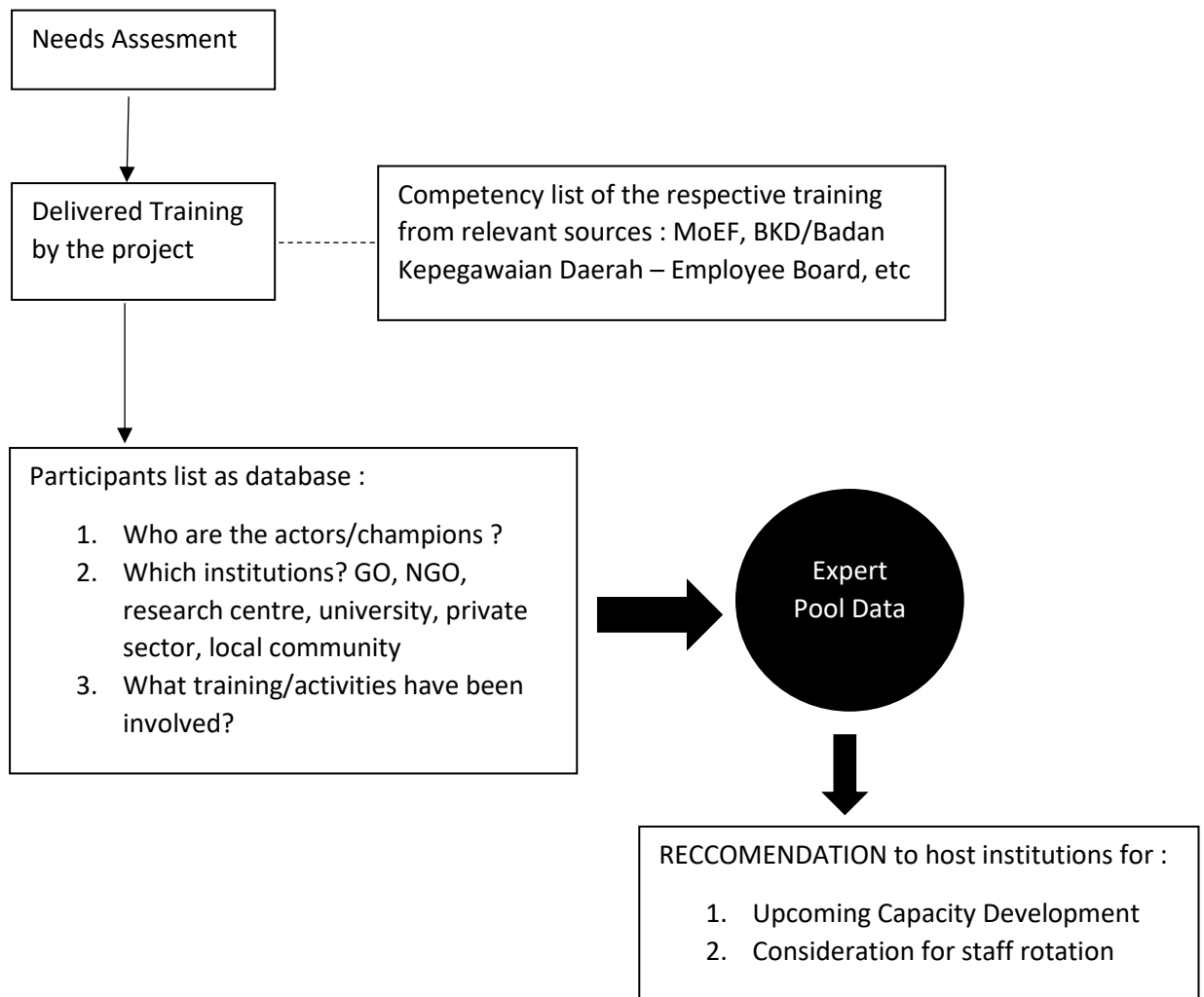
Theme : Community Based Forest Management, Agroforestry, FMUs Development

1. Group Organization Management for Local Community
2. Rattan Development for Furniture
3. Quo Vadis FMUs in South Sumatra
4. Nilam (*Pogostemon cablin* Benth) Cultivation and Atsiri Oil Production
5. CLAPS. Community Livelihoods Appraisal and Product Scanning
6. MA&D. Market Analysis and Development
7. Blog Writing and Website Management
8. Social-Economic Vulnerability Assessment

4.3 Risk Management (Staff Rotation)

One of the biggest challenges, working with partners in Indonesia, is staff rotation, especially in government institutions. BIOCLIME maintains a good relationship and involvement of government staff onto BIOCLIME's activities and the vice versa. Nevertheless the engagement process applied by BIOCLIME is 'filling the gap' within the institutions, starting from a training needs assessment, identification of staff, interests, and required skills. The continuous programs based on the assessment mentioned were developed since early 2015 by considering potential activities that can be supported or can be developed into a more sophisticated application. The approach which has been developed by BIOCLIME is described as follows:

1. Identification of Expert Pool and Need Assessment in partner institutions

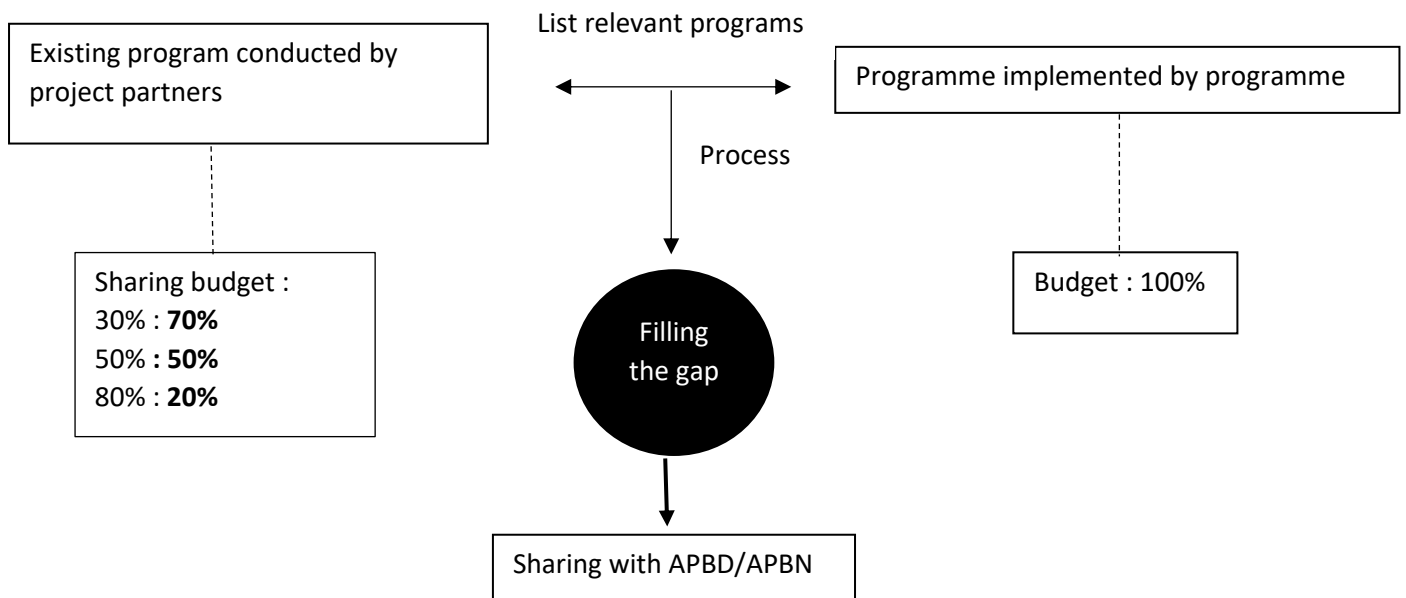


BIOCLIME cooperated with the Forestry Training Centre (Pusdiklat Kehutanan) for needs assessment of the stakeholders in early phase of the programme. The assessment was followed by training and other capacity development activities as needed by the programme's partners. The training sessions developed were matched with the competency standard from relevant sources. For instance, training on natural resource management and participatory mapping met the standard curricula of Pusdiklat, and fulfilled the competency needs from other forestry institutions. Data from series of the trainings has used by BIOCLIME to identify champions from each institution who participate in the training based on locus issues (CBFM, NRM, etc). The data also provided series of training that have been conducted as the continuation from basic to advance training level. Consequently, the expert pool data is collected as basis for the partner institutions to design upcoming activities which aim to improve and/or to maintain the staff's capacity as well as for decision makers in the institutions to consider if the organizational structure has to change and/or a rotation is needed.

2. Programme and Budget sharing mechanism with other institutions, particularly with Government Organizations

Annual planning was conducted once per year involving stakeholders from 4 (four) districts. BIOCLIME involves programme's partners in developing the planning activities and to get an insight of : (a) the programs that have been developed, (b) being developed, (c) going to be developed. The involvement of the stakeholders enables BIOCLIME to list the activities and to engage with partner institutions. Filling the gap is a scenario that has been introduced by BIOCLIME since the beginning of the project phase. It aims to identify the existing situation/asset/capacity owned by the partners and furthermore to develop capacity development activities in a participatory way.

Ability to finance activities is crucial and has been discussed to reach an effective and efficient implementation. Activities that have been initiated just by the programme are to be fully-financed by the programme, meanwhile the activities which fit to both, the programme and the annual budget plan of the partner institutions are financed by a sharing mechanism. The percentage varies, showing the decrease of the programme intervention, meanwhile on the other hand, referring to increased-allocation from partners, especially government institutions. (Eq. Year 1, 70% programme contribution – 30% partners budget, Year 2 – 50% sharing between institutions, Year 3 – 20% programme contribution, 80% from partners institution (APBD).



Annex 1. Stakeholder Analysis Related to 'Forest Conservation and Natural Resources'

Stakeholders analysis for funding accessibility related to forest conservation and biodiversity							
No.	Stakeholders	Understanding environmental issues	Understanding funding accessibility (potential donor)	Organizational readiness, networking	Writing proposal capabilities, LFA development, etc.	Organizational documents (legality, audit, etc.)	Contact Person
1	SKPD/Working group at provincial level (Sumsel)						
	BAPPEDA – regional Planning Board	Very comprehensive understanding of environmental issues at South Sumatera particularly in the issue of degradation, deforestation, and land/forest fire	Having knowledge on potential funding from donor agencies, but still do not know how to access	Cooperation has been set up in South Sumatra Province, Yet very high dependency on policy and pledge of Governors office.	Having capability in writing proposals and LFA development, but needs to strengthen capacity and cooperation between government and donor agencies	Mostly, MoU and joint decree between third parties and South Sumatera government are direct to the governor	Regina (Ka.UPTB Penataan Ruang BAPPEDA prov. Sumsel), Hp. 081367710789
	Dinas Kehutanan – Forestry Services	Good understanding on environmental issues at South Sumatera in particularly issues of degradation, deforestation and land/forest fire	Having knowledge on potential donor agencies, but need training on access and strategy		Having a fair writing capability yet need strengthening on writing structure related to donor standard		Herwin, Hp. 082181852174

	Dinas Perkebunan – Plantation Services	Focus on prevention of and/forest fire and sustainability palm oil	Having knowledge on donor agencies and information which donor are open to access but need a guidance on strategy development		Having an adequate writing capability but need strengthening on writing structure related to donor standard		Anung, Hp. 081367627924
	Forum Koordinasi Pengelolaan DAS Sumsel – Coordination Forum of Bank River Management	Having an awareness on environmental issues, particularly in land/forest fire prevention and watershed management	Having knowledge on potential funding from donor agencies for natural resource management, yet need access to strategy and indepth analysis	Organizational readiness and network has been completed and well prepared	Having writing proposal capabilities and LFA development, but need strengthening capacity and access strategy for donor and legalized forum agencies cooperation	Existing legality: South Sumatera governor decree	Syafrul Yunardi (Ketua Forum), Hp. 082133221147
	Forum CSO untuk Penanggulangan KARLAHUT Sumsel – CSO Forum for Land and Forest Fire	Land/forest fire issues focused on community based land/forest fire	Knowledge about a few donor agencies which can be accessed, but still need indepth analysis to upscale the potential funding	Organizational readiness and network has been completed and well prepared	Having a good capability on writing proposal, but need strengthening on writing structure related to donor standard	Existing legality: Forum establishment joint decree by the member	Paisal (Ketua Forum), hp. 081366598666
2	SKPD/ Kelompok Kerja kabupaten MUBA – Government Organization in MUBA district						

BAPPEDA – Planning Board	Mitigation and climate change issues through planning on low emission growth	Having a good understanding and familiar with donor agencies for potential funding, but do not know how to access	Highly dependent on commitment/pledge and policy from the regent (on behalf of district government)	Has writing proposal capability and LFA development, but needed strengthening capacity and access strategy for cooperation between donor and government	Mostly, MoU and joint decree between third parties and district government are direct to the head of district	Yuwono Aries (Kabag Penataan ruang BAPPEDA Kab. MUBA)
Dinas Kehutanan – Forestry Service	Having a comprehensive understanding about environmental issues, particularly issues of degradation, land/forest fire, and forest utilization	Having a good understanding familiar with donor agencies for potential funding, but do not know how to access		Having a good capability on writing proposals, but need strengthening on writing structure related to donor standard		Sumatro (Plt. Kadishut MUBA)
KPHP Lalan Mangsang Mendis	Issues of degradation, deforestation, and community based forest management (CBFM)	Having a good understanding familiar with donor agencies for potential funding, but do not know how to access	Human resources are very limited, highly depend on APBN(KLHK) and APBD	Having a capability on writing proposal, but need strengthening on capacity building, strategic plan on cooperation among donor and SKPD, KHP		Amsyarudin, Hp. 081239490737
KPHP Meranti	Focus on degradation and deforestation, land/forest fire prevention, and sustainable specific area management	Having a good knowledge to access and find donor agencies and CSR program	Human resource are very limited, highly depend on APBN(KLHK) and APBD	Having a capability on writing proposal and LFA development, but need strengthening on capacity building, strategic plan on cooperation among donor and SKPD, KHP		Wan kamil, Hp. 08127877762

	Badan Pelaksana Penyuluhan Pertanian, Perikanan, dan Kehutanan (BP3K)	Focus on community awareness and involvement in NTFPs (Non Timber Forest Product Utilization) utilization and bussiness plan of bamboo development	Having a good and comprehensive knowledge of potential donors yet never tried to access or to send a proposal	Having a good network, cooperation is highly depended on policy and commitement/pledge from the head of district	Having a capability on writing proposal and LFA development, but need strengthening capacity for cooperation		Tri Yulisman (Kabid Program Badan Penyuluhan Kab. MUBA), Hp. 085382733733
	Pokja Perencanaan Tata Guna Lahan mendukung Ekonomi Hijau dan Konservasi Biodiversitas	Having a comprehensive understanding on climate change issues which is currently collated onto low-emission development plan on land/forest sector	Knowing and recognize the potential donor agencies, but never tried to access		Having a capability on writing proposal and LFA development, but need strengthening capacity in term of process and joint strategy among donors for forum institution	Existing legality: Regent decree about POKJA development	Agung, Hp. 082280131818
3	SKPD/ Kelompok Kerja Kabupaten Banyuasin – Government Institution in Banyuasin District						
	BAPPEDA – Planning Board	Having a comprehensive understanding on climate change issues which is currently collated onto low-emission development plan on land/forest sector	Having few knowledge on some potential donor agencies but does not have capability to access	Having a good network, cooperation is highly depended on policy and commitement/pledge from the head of district	Does not have a good capability in writing proposal and LFA development based on donor standard	Mostly, MoU and joint decree between third parties and district government are direct to the head og district	Khairul, Hp. 08127227520

Dinas Kehutanan dan Perkebunan – Forestry and Plantation Services	Focus on degradation and deforestation, land/forest fire, and FMU's community participatory	Having a good understanding and has been familiar with donor agencies for potential funding, but do not know how to access		Does not have a good capability in writing proposal and LFA development based on donor standard		Arif Budiman, Hp. 08127873029
Dinas Perdagangan dan Perindustrian	Having a comprehensive knowledge on environmental issues and work to encourage stakeholders to contribute in reducing emission and to develop eco-friendly industry development	Having a good access of fund from donor agencies and CSR program, but still need detail information to access		Does not have a good capability in writing proposal and LFA development based on donor standard		Martini Yulia, Hp.081278450863
Dinas Perikanan dan Kelautan	Focus on Eco-friendly fishpond management issue (e.g.: silvofisheries on mangrove zone)	Having a few knowledge of donor agencies, but does not know how to access		Does not have a good capability in writing proposal and LFA development based on donor standard		Syawalina, Hp. 081373455151
Balai Taman Nasional Sembilang – Sembilang National Park	Focused issues are on Land/forest fire, degraded forest, community participatory development, and biodiversity conservation	Having knowledge of few donor agencies, but does not know how to access	Having a funding network, but need bureaucracy and depend on Ministry of Environment and Forestry policy	Having capability on writing proposal and LFA development, but need strengthening capacity in term of process and cooperation strategy between donor and UPT KLHK	Commonly has an MoU and joint decree from head of <i>Balai</i> National Park	Teguh Imansyah, Hp. 081368683488

	Pokja Perencanaan Tata Guna Lahan mendukung Ekonomi Hijau dan Konservasi Biodiversitas	Having a good understanding, conceive the climate change issue which currently be collated to low emission development plan amd land/forest sector	Having a good knowledge and is able to recognize the donor agencies but never tried to submit the proposal	Having a good network, cooperation is highly depended on policy and commitement/pledge from the head of district	Having capability on writing proposal and LFA development, but need strengthening capacity in term of process and cooperation strategy between donor and UPT KLHK	Existing legality: Regent decree about POKJA development	Khairul, Hp. 08127227520
4	SKPD/ Kelompok Kerja Kabupaten MURA/TARA						
	BAPPEDA kab. MURA	Having adequate understanding of environment issues especially related to climate change (adaptation and mitigation)	Used of funding are most probably from NGOs, CSO, academics. The government's role are to support and as the beneficiaries		Does not have a good capability in writing proposal and LFA development based on donor standard	MoU and cooperation letter are normally between the 3rd party with district government and relate to head of district	Albi Putra (Kasubid Sumber Daya dan Investasi)
	KPHP Lakitan	Focused issues are on deforestation, encourangement of local community in forest management (partnership and Village Forest), conflict on forest resource management	Having a good knowledge of potential donor agencies who support KPHP's activities, yet never try to submit the proposal	Having a network. Funding for small grants (facilities/SARPRAS) can be executed by KPHP	Does not have a good capability in writing proposal and LFA development based on donor standard, need capacity development in process and cooperation strategy with donor for SKPD (KPHP)		Edi Cahyono(Ka.KP HP Lakitan), hp. 081278959007

Balai Taman Nasional Kelinci Sebelat (TNKS) Wil. Sumsel	Focused issues are on Land and forest fire, degradation and deforestation, and engagement the community in TNKS (Kerinci Seblat NP) management	Used of funding are most probably from NGOs, CSO, academics. Kerinci Seblat NP's role are to support and as the beneficiaries	Having a network, and for cooperation will depend to policy and commitment from head of district	Does not have a good understanding on writing proposal and developing LFA based on donors' standard and need capacity development in process and cooperation strategy with donor for UPT under KLHK	MoU and cooperation letter is mostly from head of Kerinci Seblat NP/TNKS	Miskun (Kasi TNKS Wil. Sumsel), Hp. 085267866237
Badan Penanaman Modal dan Pelayanan Terpadu Perizinan kab. MURA	Does not have adequate understanding of environment issues, but has potential chance to support companies in contribution to environment management and community empowerment with CSR fund	Potential funding is from private company (CSR program): submitted from local community to the company	Taking role to support company in implementing the CSR	Does not have a good understanding on writing proposal and developing LFA based on donors' standard	MoU and cooperation letter is mostly between the district company which direct to head of district	Drs. Suwardi (Kabid Pengawasan dan Pengendalian Badan Penanaman Modal dan Pelayanan Terpadu Perizinan kab. MURA
Pokja REDD+ Kab. MURA	Having a good understanding of environment issues, especially in climate change. Recently the institution develops planning documents of low emission in land and forest sectors, being the core team in development of KLHS RPJM of Mura district	Having a good knowledge of potential donor agencies who support natural Resource activities, yet this funding will be more flexible if handled by the third party (NGOs, CSO, academics)	Part of policy from KLHK and for cooperation will depend to policy from KLHK	Does not have a good understanding on writing proposal and developing LFA based on donors' standard, need further capacity development on process and strategy cooperation with donor for Forum whose legal/decreed signed by head of district		Edi Cahyono (Sekretaris POKJA REDD+), hp. 081278959007

	Forum CSR untuk Program Kemitraan dan Bina Lingkungan Kab. MURA	Does not have adequate understanding of environmental issues, but has potential to support companies and communities in environmental management (forest/land) For instance : land/forest rehabilitation of community based by CSR fund	Donor funding from private sector (company), the obligation is to support community empowerment and sustainable environmental management	Taking role in monitoring and evaluation, budget implementation CSR company to community	Does not have a good understanding on writing proposal and developing LFA based on measured standard (for CSR fund)	Existing legal documents: Decree (SK). Establishment CSR forum from head of district	Drs. Suwardi (Kabid Pengawasan dan Pengendalian Badan Penanaman Modal dan Pelayanan Terpadu Perizinan kab. MURA
5	Local NGO						
	Lembaga Pemantau Lingkungan Hidup (LPLH) Kab. MURA	Having a good understanding on environmental issues specifically on CBFM, deforestation and degradation in MURA/MURATARA	Does not have knowledge on the potential donors that can be accessed	Having a network, nevertheless the human resource for organization is limited	Does not have a good capability in writing proposal and LFA development based on donor standard	Existing legality: 1. Notary, 2. Kembanglinmas permit, 3. Does not have an audit	kenni, Hp. 081274924102
	Yayasan Adil Lestari Kab. MURA	Having a good understanding on environmental issues focused on conflict between industrial forest and community, and destructive mining in MURA/MURATARA	Having a good knowledge and have been familiar for potential funding, but does not have capability to access	Having a network, nevertheless the human resource for organization is limited	Does not have a good capability in writing proposal and LFA development based on donor standard	Existing legality: 1. Notary, 2. Kembanglinmas permit, 3. Does not have an audit	Saparudin Yasa, Hp.

Komunitas Masyarakat Peduli Pembangunan MUBA Kab. MUBA	Having a good understanding on environmental issues specifically on deforestation, flood, and community based forest management	Having a good knowledge of potential funding, but does not have capability to access	Having a network, nevertheless the human resource for organization is limited	Does not have a good capability in writing proposal and LFA development based on donor standard	Existing legality: 1. Notary, 2. Kembanglinmas permit, 3. Does not have an audit	Saparudin, Hp. 08127391177
Komite Komunitas Demokrasi Banyuasin (KKDB) Kab. Banyuasin	Having a good understanding on environmental issue specifically on deforestation and currently promote conservation based local/rural policy	Having a good knowledge of potential funding, but does not have capability to access	Having a network, nevertheless the human resource for organization is limited	Does not have a good capability in writing proposal and LFA development based on donor standard	Organization legality: 1. Having a public notary, 2. Having Kemehjukan permit, 3. Having Kembanglinmas permit, 4. Does not have an Audit	Arman Sakri, Hp. 081320116371
Hutan Kita Institute (HaKI) Sumsel	Having a good understanding on environmental issues, focused on community based forest management (HD/HKm), promote sustainable forest management, conflict resolution at industrial forest, and Sembilang biodiversity conservation landscape	Having a good understanding and be well known of the donors. The institution has accessed to get fund	Having a good base of network, human resource, and organization readiness	Does not have a good capability in writing proposal and LFA development based on donor standard	Organization legality: 1. Having a public notary, 2. Having Kemehjukan permit, 3. Having Kembanglinmas permit, 4. Does not have an Audit	Aidil Fitri, Hp. 08127110385

Lingkar Hijau (LH) - Sumsel	Having a good understanding on environmental issue specifically on community based land/forest management, and Natural resource conflict management which is focusing on CBFM at MUBA	Having a good understanding and have Well known about donors. The institution has been accessed to get the fund	Having a network, nevertheless the human resource for organization is limited	Does not have a good capability in writing proposal and LFA development based on donor standard	Organization legality: 1. Having a public notary, 2. Having Kemenhukan permit, 3. Having Kembanglinmas permit, 4. Does not have an Audit	Anwar sadad, Hp. 08127855725
Perkumpulan Tanah Air (PeTA) - Sumsel	Having a good understanding on environmental issue, basically on Natural resource management, agrarian, and natural resource policy study	Familiar with donor agencies for funding potential, but doesn't have capability to access it	Having a network, nevertheless the human resource for organization is limited	Does not have a good capability in writing proposal and LFA development based on donor standard	Organization legality: 1. Having a public notary, 2. Having Kemenhukan permit, 3. Having Kembanglinmas permit, 4. Does not have an Audit	Muhaimin, hp. 085100750367
Yayasan Kesejahteraan Masyarakat Desa (KEMASDA)	Having a good understanding on environmental issue, focused on rural community and institutional development, eco-friendly business development	Familiar with donor agencies for funding potential, but doesn't have capability to access it	Having a wide network, human resource for organization is available	Does not have a good capability in writing proposal and LFA development based on donor standard	Organization legality: 1. Having a public notary, 2. Having Kemenhukan permit, 3. Having Kembanglinmas permit,	Nurnajati, hp. 081532765663

						4. Having an Audit	
	SPORA Institute - Sumsel	Having a good knowledge on environmental issue, specifically on Conflict resolution of Natural Resource and organic agriculture development	Having a good knowledge of potential funding, but does not have capability to access	Having a network, nevertheless the human resource for organization is limited	Does not have a good capability in writing proposal and LFA development based on donor standard	Organization legality: 1. Having a public notary, 2. Having Kemehukan permit, 3. Having Kembanglinmas permit, 4. Does not have Audit	Julian Junaidi (polong), hp. 082176144440
6	University						
	Sekolah Tinggi Ilmu Ekonomi Rahmaniyah Kab. MUBA	Having a good understanding on environmental issue, basically on climate change (adaptation and mitigation)	Doesnot know the potential donors that can be accessed	Having limited network, has a potential LPPM (Research and community service agencies) organization for cooperation	Having a fair capability on writing proposal and LFA development, but still need improvement according to donor standard	Organization legality: 1. Having a public notary, 2. Having a collage permit, 3. Having Kembanglinmas permit, 4. Having an audit	Ahmad Irfansyah

	Sekolah Tinggi Agama Islam (STAIS) Bumi Silampari Lubuk linggau	Does not have adequate understanding of environment issues, but have involved to developed public awareness of the LH preservation	Does not know the potential donors that can be accessed	Having limited network, has a potential PUSLIT & PPM organization for cooperation	Having capability on writing proposal and LFA development, but still need improvement according to donor standard	Organization legality: 1. Having a public notary, 2. Having a collage permit, 3. Having Kembanglinmas permit, 4. Having an audit	Imanudin, Hp. 081373116456
	MIPA Faculty UNSRI Major : Biology	Having an excellent understanding on environmental issue and recently has collated biodiversity database for Sembilang landscape	Have been Well known about donors and the institution has been accessed to received funds	Having a wide network, and the organization has been mature to cooperate with donors	Having capability on writing proposal and LFA development, but still need improvement according to donor standard	Organization legality: 1. Having a public notary, 2. Having a collage permit, 3. Having an audit	Indra Yustian, Hp. 081271260812
7	Private sector						
	PT Rimba Hutani Mas (Hutan Tanaman Industri - Sinar Mas Forestry Group) Kab. MUBA	Having a good understanding on environmental issues especially on forest protection, gharials conservation, and community development around the concession area	Having role as a donor through its CSR fund for gharial conservation and economic development of rural communities around the concession area	Having a wide network and specific division for CSR implementation	standard/specific format proposal for community to apply CSR fund is not available, it needs strengthening capacity for proposal	Companies standard legality from government	Abdullah Bakri, hp. 081366892642

PT. Restorasi Ekosistem Indonesia (REKI)	Having a good understanding on environmental issues focusing on ecosystem restoration within concession area in MUBA regency and Jambi	Have been well known about donors and the institution has been accessed to received funds	Having a wide networking, and existing consortium and KEHI foundation that can work with donors or/and CSR program	Having a good capability on writing proposal and LFA development based on to donor standard	Companies standard legality from government	Firdaus, Hp. 085838139518
PT. MEDCO E & P Indonesia Kab. MURA	Does not have an adequate understanding on environmental issues. Cooperation in community is through CSR program for sustainable environment (land/forest) management	Has role as a donor through its CSR fund for gharial conservation and economic development of rural communities around the concession area	Having a wide local networking and specific division for CSR program	standard/specific format proposal for community to apply CSR fund is not available, it needs strengthening capacity for proposal	Companies standard legality from government	

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