



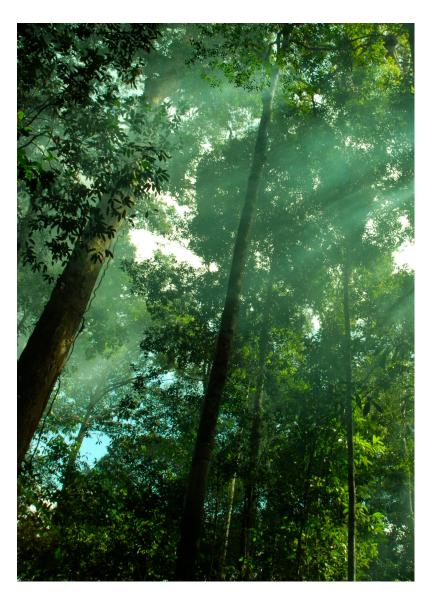




Conservation Area Management in Indonesia

Existing Management, Lessons Learned and Recommendations

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Conservation Area Management in Indonesia

Existing Management, Lessons Learned and Recommendations



Background

Many conservation areas in Indonesia were designated during the Dutch Colonial Government under the East Indie Governor General Decree. The designations were based on several laws and regulations regarding the protection of wildlife, especially big mammals, and attractive birds and other small animal species. Most of the conservation areas were designated as nature monument (natuurmonumenten) and wildlife reserve (wildreservaat).



Brahminy kite (*Haliastur indus*) in Betung Kerihun National Park, West Kalimantan. *Photograph by I Gusti Ngurah Pradnyana (TNBKDS)*

The enactment of Law No. 5 of 1967 concerning Basic Provisions on Forestry stated that forests for conservation purposes were divided into Nature Reserve Forest (Hutan Suaka Alam) and Recreation Forest (Hutan Wisata). Therefore, the designated natuurmonumenten and wildreservaat were grouped into Nature Reserve Forest, and re-designated as Strict Nature Reserve (Cagar Alam) and Wildlife Reserve (Suaka Margasatwa). In 1979 - 1983, under the FAO/UNDP National Parks Development Project, a National Conservation Plan (NCP) for Indonesia was prepared. Existing and proposed conservation areas were described based on major islands (bio-geographic regions), namely Sumatra, Kalimantan, Java-Bali, Nusa Tenggara, Sulawesi, Maluku and Irian Jaya (Papua). Besides the NCP, some proposed national park management plans were also developed by assessing strict nature reserves and/or wildlife reserves and adjoining surrounding forestland to become reasonably sized compact areas. The assessment, which was also a campaign to be the host of the Third World's National Park Congress in 1982, resulted in the declaration of five national parks in March 1980, namely Gunung Leuser (Aceh), Ujung Kulon (Banten), Gunung Gede Pangrango (West Java), Baluran (East Java), and Komodo (East Nusa Tenggara). In October 1982, Indonesia indeed hosted the Third World's National Park Congress in Denpasar, Bali. On this occasion, the Minister of Agriculture through Ministerial Statement No. 736/Mentan/X/1982 dated 14 October 1982 declared another 11 areas as national parks, namely Kerinci Seblat, Way Kambas, and Bukit Barisan Selatan (Sumatra); Bromo-Tengger-Semeru, and Meru Betiri (Java); Bali Barat (Bali); Tanjung Putting, and Kutai (Kalimantan); Lore Lindu, and Dumoga Bone/ Bogani Nani Wartabone (Sulawesi); and Manusela (Maluku).

Figure 1. The first 16 National Parks **Gunung Leuser** Dumoga Bone/Bogani Nani Wartabone Lore Kerinci Seblat Manusela Tanjung Way Kambas Putting Bukit Barisan Selatan Baluran Ujung Kulon Bali Barat Komodo Gunung Gede Pangrango Bromo-Tengger-Semeru Meru Betiri



Mangrove forest in Ujung Kulon National Park - on the extreme south-west tip of Java.

Photograph by Donald Bason.

Based on the NCP, the potentials of some proposed conservation areas were also assessed and designated as either Strict Nature Reserve, Wildlife Reserve, or Nature Recreation Park, including coastal and shallow sea water areas for conserving coral reefs and sea life habitats. In 1983, FAO and WWF supported Indonesia in producing a road map for Marine Conservation in Indonesia¹. The main objective of the road map was to establish about 10 million hectares of unique and important marine habitats, including mangroves, coral reefs, lagoons, sea grass spreads, and coastal areas.

To date, Indonesia has designated 521 conservation areas covering a total area of 27.108.486 ha, including²: 221 Strict Nature Reserves (4.08 mill. ha); 75 Wildlife Reserves (5.03 mill. ha); 50 National Parks (16.34 mill. ha); 23 Grand Forest Parks (0.35 mill. ha); 115 Nature Recreation Parks (0.75 mill. ha); and 13 Hunting Parks (0.22 mill. ha). Currently, the focus of conservation area management is put on national parks by developing a special institution to manage the park, called national park office, a technical implementation unit of the Directorate General of Natural Resources and Ecosystem Conservation of the Ministry of Environment and Forestry (MoEF). Non-national park conservation areas, however, are being poorly managed at provincial level by natural resources conservation offices. Although managed by a special institution, the national parks management is considered as not effective yet, as shown by the point under Management Effectiveness Tracking Tool (METT). The management faces even greater challenges in non-national park conservation areas. The situation leads to ecosystem degradation due to, among others, illegal logging, encroachment, poaching, illegal cattle grazing and other land use changes.

The ongoing establishment of Conservation Forest Management Units (CFMU) is a breakthrough in conservation area management. Not only national parks which have been managed since 1982, benefit from this process, but the establishment of non-national park CFMUs will also lead to a better area management, especially for Strict Nature and Wildlife Reserves where the management is currently limited to safeguarding the area. Likewise, the management of nature recreation and hunting parks in collaboration with third parties (permit holders) could be supervised better by the CFMU. Furthermore, the CFMU could also provide technical advice to the management of Grand Forest Parks which are under the authorization of district governments based on Law No. 23 0f 2014 concerning sub-national (regional) governments.

¹ Soehartono, Tonny and Ani Mardiastuti. 2013. The Voice of National Parks in Kalimantan, Indonesia. History of National Park Development in Indonesia. Nata Samastha Foundation. Jakarta.

² Statistik Direktorat Jenderal PHKA 2012. 2013. Kementerian Kehutanan Republik Indonesia. Direktorat Jenderal Perlindungan Hutan dan Konservasi Alam. Jakarta.

Existing Conservation Area Management

National Park³

Since 1982, after hosting the Third World National Park Congress in Bali, Indonesia has put high priority on the development of national parks. Starting with 5 national parks prior to the congress (1980) and adding 11 during the congress (1982), Indonesia has currently established 50 national parks throughout the country. National park management in Indonesia began with the establishment of institutions which aimed at implementing a national park management system as adopted in Bali (1982). The institution known as Sub Division of Natural Conservation Area (Sub Balai Kawasan Pelestarian Alam) was originally supervised by the Division of Natural Protection and Preservation (Balai Perlindungan dan Pengawetan Alam) and has now been transformed into the so-called National Park Management Office (Balai/Balai Besar Taman Nasional).

The structure of the national park management office consists of a management unit that implements natural resources and ecosystem conservation under and responsible to the Director General of Natural Resources and Ecosystem Conservation of MoEF. In undertaking the tasks, the NP TIU has the following responsibilities:

- 1. Inventory of the park's potential, area planning (zoning), and preparing management plan;
- 2. Area protection and security;
- 3. Impact control of natural resources deterioration;
- 4. Forest fire control;
- 5. Non-commercial development and utilization of wild plant and animal species;
- 6. Preservation of wild plant and animal species, habitats and genetic resources, including traditional knowledge in the park area;
- 7. Enhancement and utilization of ecosystem services;
- 8. Evaluation of designated function suitability, ecosystem restoration plan and forest cover changes;
- 9. Data and information services, promotion, and natural resources and ecosystem conservation marketing;
- 10. Cooperation and partnership development in natural resources and ecosystem conservation;
- 11. Nature lover management and extension in the field of natural resources and ecosystem conservation;
- 12. Empowerment of communities in and surrounding the park; and
- 13. Administration and office matters, and community relation.

³Ministry of Environment and Forestry Regulation Number P.7/Menlhk/Setjen/OTL.0/1/2016 on Organization and Working Order of the National Park Technical Implementation Unit (*Peraturan Menteri Lingkungan Hidup dan Kehutanan tentang Organisasi dan Tata Kerja Unit Pelaksana Teknis Taman Nasional*)



Hot springs, Gunung Gede Pangrango National Park, West Java. Photograph by Donald Bason.



Tanjung Puting National Park, located in the southeast part of West Kotawaringin Regency in Central Kalimantan. Photograph by Donald Bason.

At present, there are two types of National Park Offices, i.e. *Balai Besar* and *Balai* of national park which are further divided into Type A and B. The differentiation influences the organization structure and number of structural position ranks. In order to increase the management effectiveness in the field, the management may establish a non-structural position, called Resort which is commanded by a non-structural staff.

Natural Resources Conservation

Coinciding with the development of the national park management institution in 1982, the management of non-national park conservation areas was separated from the management approaches of national parks. The government established an institution called Sub Division of Natural Resources Protection and Preservation (Sub Balai Perlindungan dan Pengawetan Alam) which was also supervised by the Division of Natural Protection and Preservation (Balai Perlindungan dan Pengawetan Alam). The establishment of the national park institution has influenced the arrangement of non-national park management institutions which were first developed as Division and Sub Division of Natural Resources Conservation (Balai dan Sub Balai Konservasi Sumber Daya Alam), and finally transformed into provincial-based Division of Natural Resources Conservation (Balai Besar/Balai).

The Technical Implementation Unit (TIU) of Natural Resources Conservation is a management unit for natural resources and ecosystem conservation under and responsible to the Director General of Natural Resources and Ecosystem Conservation. The tasks of this Technical Implementation Unit are to conduct natural resources and ecosystem conservation measures in strict nature reserves, wildlife reserves, nature recreation parks, and hunting parks. In addition, the institution is also responsible to conduct technical coordination with respect to the management of grand forest parks (taman hutan raya) and essential ecosystem areas based on existing regulations. In undertaking the tasks, the Natural Resources Conservation TIU has the function to conduct:

⁴Ministry of Environment and Forestry Regulation Number P.8/Menlhk/Setjen/OTL.0/1/2016 on Organization and Working Order of the Natural Resources Conservation Technical Implementation Unit (Peraturan Menteri Lingkungan Hidup dan Kehutanan tentang Organisasi dan Tata Kerja Unit Pelaksana Teknis Konservasi Sumber Daya Alam).

- Inventory of the park's potential, area planning (block division/zoning), and preparing management plans for strict nature reserves, wildlife reserves, nature recreation parks, and hunting parks;
- 2. Area protection and security of strict nature reserves, wildlife reserves, nature recreation parks, and hunting parks;
- 3. Impact control of natural resources deterioration;
- 4. Forest fire control in strict nature reserves, wildlife reserves, nature recreation parks, and hunting parks;
- 5. Management of wild plant and animal species, habitats and genetic resources, including traditional knowledge;
- 6. Enhancement and utilization of ecosystem services;
- 7. Evaluation of designated function suitability, ecosystem restoration plans and forest cover changes;
- 8. Preparation of the establishment and operationalization of Conservation Forest Management Units (CFMU);
- 9. Data and information service, promotion, and natural resources and ecosystem conservation marketing;
- 10. Cooperation and partnership development in natural resources and ecosystem conservation;
- 11. Supervision and control of wild plant and animal species distribution;
- 12. Technical coordination on wildlife corridor designation;
- 13. Technical coordination on the management of grand forest parks and essential ecosystem areas;
- 14. Nature lover management and extension in the field of natural resources and ecosystem conservation;
- 15. Empowerment of communities in and surrounding the parks; and
- 16. Administration and office matters, and community relations.

Like the national park institutions, Natural Resources Conservation TIUs are classified into Class I (*Balai Besar*) and Class II (*Balai*). Both *Balai Besar* and *Balai* of Natural Resources Conservation are further divided into Type A and Type B. The class and type differentiation influence the organizational structure and number of structural position ranks. In order to increase the management effectiveness in the field, the management may establish a non-structural position, called Resort which is commanded by a non-structural staff. In addition, to support the resort activities, the Head of *Balai Besar/Balai* of Natural Resources Conservation may assign a Head of Section or non-structural staff as a Head of CFMU up to organization and work order of CFMU as determined by the law and regulation.



Swallowtail butterflys in Betung Kerihun National Park, West Kalimantan. Photograph by Dwi Maria da Kontas.

The Development of Conservation Forest Management Units



Large tree, Berau, East Kalimantan.

Photograph by Georg Buchholz.

Rationale

Based on Law Number 41 of 1999 on Forestry, all forestlands (production, protection and conservation) must be divided into and managed under forest management units. The units are located on forestland with the function of implementing forest management activities. The forest management unit, especially production and protection forest management units, is regulated further in Government Regulation Number 44 of 2004 on forestry planning, and Government Regulation Number 6 of 2007 Jo. Number 3 of 2008 on Forest Planning, Forest Management Plan Preparation, and Forest Utilization.

Basically, in achieving its management objectives for the best benefits of the community, the government shall administer the forest through conducting:

- 1. Forestry planning;
- 2. Forest management;
- 3. Forestry Research and development, education and training, and extension; and
- 4. Supervision.

As a technical domain of on-site forest management, based on its main tasks and functions, an FMU is authorized to:⁵

- 1. Conduct forest management, including:
 - a. Forest planning and management plan preparation;
 - b. Forest resources utilization, i.e. supervising and managing permit holders;
 - c. Forestland uses, i.e. supervising and managing permit holders;
 - d. Forest utilization in special zones;
 - e. Forest rehabilitation and reclamation;
 - f. Forest protection and nature conservation.
- Further specifying national, province and district/city forest policies for their implementations.
- 3. Execute forest management in the designated area, including planning, organizing, implementing, as well as supervising and controlling.
- 4. Monitor and evaluate forest operations.

Unlike production and protection FMUs, conservation FMUs were developed from already designated conservation/protected areas/forests that are managed by either *Balai Besar/Balai* of National Park or Natural Resources Conservation (for non-national park conservation areas). In addition, the authorization of conservation/protected areas lies with the central government, i.e. the MoEF. Therefore, a CFMU is a central government organization at site level, except for grand forest parks (*Tahura*) which are under the authority of the district government or, if the park extends across district boundaries, under the provincial government.

Even though the FMU system will be applied, the functions of conservation areas as described above do not change. Consequently, the management must be in accordance with Law No. 5 of 1990 on Living Natural Resources and Ecosystem Conservation which is further regulated by the Government

 $^{^5\,}http://kph.menlhk.go.id/index.php?option=com_phocadownload&view=category&id=118&Item id=313$

Regulation No. 28 of 2011 on Nature Reserve Area (*KSA*) and Nature Conservation Area (*KPA*) Management. Currently, a national park FMU is a national park that is managed by the Division (*Balai*) of National Park. A non-national park FMU is a cluster of non-national park conservation areas, except grand forest parks.

CFMU Establishment and Development

In preparing development design of the CFMU some aspects have to be taken into account, including:⁶

- 1. Conservation areas shall be managed in accordance with Government Regulation No. 28 of 2011 on Nature Reserve Area (KSA) and Nature Conservation Area (KPA) Management.
- FMU establishment is regulated by Government Regulation No. 6 of 2007 juncto Government Regulation No. 3 of 2008 on Forest Planning, Forest Management Plan Preparation, and Forest Utilization.
- 3. CFMU is a forest management institution on designated forestlands as conservation/ protected areas, both *NRA/KSA* (national park, nature recreation park, and grand forest park) and/or *NCA/KPA* (strict nature reserve and wildlife reserve), and hunting park.
- 4. Conservation forest areas often require restoration and rehabilitation measures due to forest and ecosystem degradation, and tenurial conflicts.
- Evaluations of both NRA/KSA and/or NCA/KPA should be conducted every 5 years or as necessary to determine management improvements or functional changes of the area.
- 6. Strategic Goal B of Aichi Biodiversity Targets⁷: Reduce the direct pressures on biodiversity and promote sustainable use; and Strategic Goal C: Improve the status of biodiversity by safeguarding ecosystems, species and genetic diversity.

By considering the above-mentioned aspects, the design of CFMUs could be implemented as follows:

- 1. Secured management area, i.e. clustering assigned and designated conservation areas by minister.
- 2. Assessment of ecological functions and ecosystem services.
- 3. Assessment of institutional structure including roles, responsibilities, threats and challenges and spatial conditions.
- 4. Assessment the priority of resource utilization, i.e. the development based on accessibility.

However, prior to the development of criteria and indicators of the CFMU Development Design and Operationalization Guidance, the Minister of Forestry has designated 50 conservation FMUs covering a total area of 10,191,333.70 ha in the period December 2009 – December 2013, comprising 38 national parks (8,373,061.81 ha) and 12 non-national parks (1,818,271.00 ha)8. An additional 42 CFMUs covering an area of 1,829,329.00 ha have been designated, particularly non-national park CFMUs. In addition, the Director General of Natural Resources and Ecosystem Conservation has issued a regulation in July 2016 (No. P.3/KSDAE/SET/KSA.1/7/2016 on Technical Guidance for Conservation Forest Management Unit Operationalization). GIZ FORCLIME contributed to the preparation and formulation of the regulation by providing expertise during the process.



Stone jars, Lore Lindu National Park, Central Sulawesi: Declared a National Park in October 1982, it covers 2,180 km² of both lowland and montane forests with ancient stone megaliths in and around it.

Photograph by Donald Bason.

⁶Siswanto, Wandojo dkk. 2015. Penyusunan Kriteria & Indikator Rancang Bangun (Pembentukan) KPHK dan Pedoman Operasional KPHK. Kerjasama antara Direktorat Jenderal KSDAE, Kementerian Lingkungan Hidup dan Kehutanan dengan GIZ FORCLIME. Jakarta.

Convention on Biological Diversity. Aichi Biodiversity Targets. https://www.cbd.int/sp/targets/

⁸ http://kph.menlhk.go.id/index.php?option=com_content&view=category&layout=blog&id=71&Itemid=220

Lessons Learned and Further Steps

CFMU Establishment

Basically, the two most important aspects to be considered in CFMU establishment are considering ecological and management aspects of the areas and surrounding landscape. As we are aware, important factors to consider in assigning and designating conservation/protected areas, among others, are the degree of endemism, rarity, and ecological representativeness. Therefore, these factors in combination with management practicability and surrounding landscape condition should be used as basis in clustering two or more conservation areas into one CFMU. National park and adjacent small conservation areas should be clustered into one CFMU with the national park being considered as the core of the CFMU. For non-national park CFMUs, ecosystems of sufficient size as a core, which may be represented by forest cover, should be clustered into one CFMU with or without other adjacent small conservation areas.



Betung Kerihun National Park, West Kalimantan.

Photograph colection of Danau Sentarum-Betung Kerihun National Park. Considering the mentioned aspects and factors, the report on Criteria and Indicators of CFMU Development Design (2015) should be carefully transformed into technical guidelines as a basis for the establishment of new CFMUs as well as redesigning existing CFMUs, especially those designated prior to 2015. The designation of these CFMUs was apparently only based on the aspect of size without considering adjacent conservation areas and surrounding landscape. Therefore, those CFMUs consist of only one national park or non-national park conservation area (strict nature reserve or wildlife reserve). Therefore, reexamination the distribution and spatial boundaries of these CFMUs should be conducted based on their specific conservation objectives. Furthermore, by clustering various conservation area functions such as strict nature reserve, wildlife reserve, nature recreation park, and/or hunting park, diversification of area management and social inclusive could be applied.

The authority of Grand Forest Park (*Tahura*) management lies with the subnational government, i.e. province or district/city government depending on its administrative location. However, since it is a conservation area under the umbrella of Nature Conservation Area (*KPA*) together with national park and nature tourism park, the technical guideline in CFMU establishment to be applied is the one developed by MoEF, i.e. Directorate General of Natural Resources and Ecosystem Conservation⁹.

 $^{^8}$ Siswanto, Wandojo. 2016. Transformation of Tahura Management into CFMU. $2^{\rm nd}$ GIZ FORCLIME Quarterly Meeting. May 2016. Jakarta.

Tahura is an area for the purpose of plant and/or animal species collection which may consist of either natural or man-made and with native and/or non-native species which are not categorized as invasive. Tahura are utilized for the purpose of research, scientific activities, education, support cultivation, culture, tourism or recreation. Currently, many Tahura are managed by a special institution or working unit, such as a FMU Technical Implementation Unit as a subordinate of the respective Forestry Office. Therefore, for some cases, the Governor or Head of District/Mayor could establish CFMU for Tahura by transforming the existing institution. Besides, the established Tahura CFMU could implement the Financial Management Pattern of the Regional Public Services Agency (Pola Pengelolaan Keuangan Badan Layanan Umum Daerah/PPK BLUD). By implementing this Financial Management Pattern the management of Tahura would be enabled to reinvest their revenues from managing the resources.

Institutional Building

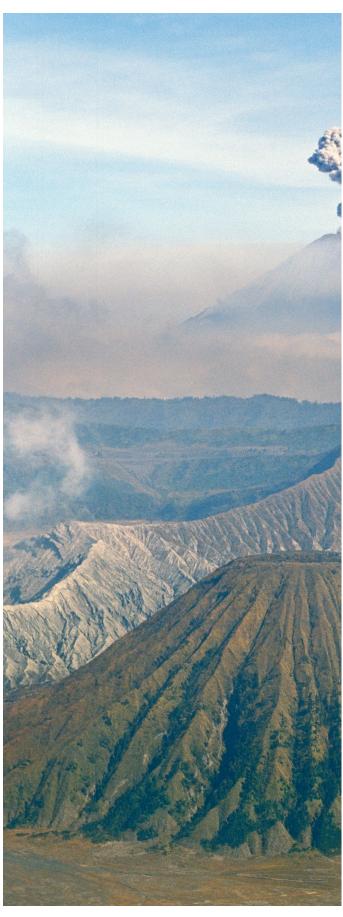
Although CFMUs have been designated since 2009, the organizational structure is still not yet clearly defined. The issuance of various Ministerial Decrees on CFMUs can be considered as simply labeling selected national parks, strict nature reserves and wildlife reserves because almost no management changes are made. National Park CFMUs managed by *Balai* of National Parks are still doing business as usual. Even worse, designated nonnational parks remain without any special institution to manage the areas. These CFMUs are still managed by *Balai Besar/Balai* of Natural Resources Conservation who are mainly safeguarding the areas without any special recognition as CFMU.

The issuance of the Director General of Natural Resources and Ecosystem Conservation Regulation No. P.3/KSDAE/SET/KSA.1/7/2016 dated 20 July 2016 on Technical Guidance for Conservation Forest Management Unit Operationalization can be considered as the commencement of improved CFMU implementation. In addition, better justifications were also used in assigning and designating new CFMUs in 2016 after many discussions with the heads of *Balai Besar/Balai* of Natural Resources Conservation based on the results of a study previously conducted.

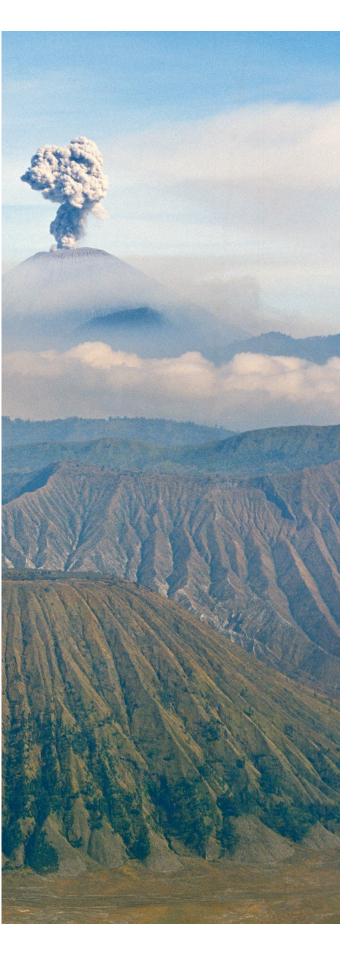
Presently, the organization of designated CFMUs is an add-on to the existing *Balai Besar* of National Park or *Balai Besar/Balai* of Natural Resources
Conservation¹⁰. For national parks managed by a *Balai*, the Head of *Balai* serves concurrently as Head of CFMU, whereas for national parks managed by a *Balai Besar*, the position as Head of CFMU is acted by the Head of Division of Conservation Techniques (*Bidang Teknis Konservasi*). In case of a *Balai Besar* of Natural Resources Conservation, the Head of CFMU is served by either a head of division or section, depending on the importance of the management aspects of the designated non-national park CFMU.

As outlined in the Director General NREC regulation, which was developed based on the work supported by GIZ FORCLIME, the objective of a CFMU is livelihood support system protection, biodiversity preservation in order to avoid species extinction, and sustainable biodiversity utilization. Basically, the functions and tasks of a CFMU are the same as those of conservation areas because there are no area function changes. However, as a CFMU, further tasks are added, including:

Director General of Natural Resources and Ecosystem Conservation regulation No. P.3/ KSDAE/SET/KSA.1/7/2016 dated 20 July 2016, on Technical Guidance for Conservation Forest Management Unit Operationalization



Bromo Tengger Semeru National Park in East Java is named after its two mountains, Mount Semeru and Mount Bromo. Photograph by Donald Bason.



- Provide possibility for cooperation and collaboration with other parties in achieving CFMU management objectives;
- 2. Coordinate with related parties and local government in developing CFMU buffer zone at the border area; and
- Strengthen community empowerment through capacity building, provide access to utilization for the community, and involve local communities in information management, safeguarding, maintenance, and control.

The function of CFMU in conducting its tasks covers:

- 1. Conducting inventory on biodiversity and area planning;
- 2. Conducting wild flora and fauna and habitat management;
- 3. Conducting area protection and safeguarding;
- 4. Conducting wildlife corridor assignment, ecosystem restoration, and area maintenance by stopping visitation;
- 5. Conducting utilization and promotion of area potentials;
- 6. Conducting evaluation of area designated function suitability;
- 7. Conducting forest fire management;
- 8. Conducting management of activities for surrounding communities;
- 9. Supporting the establishment and development of buffer zones;
- 10. Developing cooperation on function strengthening and strategic matters; and
- 11. Conducting monitoring and evaluation activities.

Based on the Director General Regulation, the head of CFMU could be appointed by the Head of *Balai Besar* of National Park or the Head of *Balai Besar/Balai* of Natural Resources Conservation, but the organization structure has not been decided. This situation leads to an unclear position of the head of CFMU in implementing the tasks and functions as outlined in the regulation. Therefore, establishing a special organization should to be prioritized by the government in order to create an effective management of the CFMU. *Balai Besar*, both of national park and natural resources conservation, could play a role in coordinating the management of CFMU in their areas, depending on the number of CFMUs established. *Balai* of national park and adjacent protected areas could be designated as a CFMU. Likewise, *Balai* of Natural Resources Conservation could be designated as part of another CFMU in the province or directly converted to CFMU.

Authority

Beside organization, the authority of the CFMU needs to be defined and made effective in implementing its tasks and functions, especially in cooperation development, coordination with related parties and permit holders within their area, as well as community empowerment and engagement. Technical matters in conservation area and species management of the CFMU should also be strengthened. To some extent, decision making processes should be delegated from the Director General of Natural Resources and Ecosystem Conservation to the Head of CFMU, particularly for issues related to conflicts with local communities which are not related with forest crime practices. Strengthening the authority of CFMU will create trust from related parties and communities in and surrounding the area.

Grand Forest Park (TAHURA)

As part of NCA, the management of Grand Forest Park (*Tahura*) aims at maintaining plant and animal diversity to avoid species extinction, protect lifelihood support systems, and use biodiversity in a sustainable way. Since it is a combination of nature conservation efforts, both ex-situ and in-situ conservation, *Tahura* may be designated both from natural and/or man-made forests.

According to Paragraph 14, Article 2 of Law No 23 of 2014 on Regional Governance, governance affairs and authority in relation to grand forest park management located in a district/City remain under the District/City Government. As a *Tahura* is mostly located within one district, it could be the only forestry affair left at the district/city government. A *Tahura* located across district/city boundaries, though, shall be managed by the province government.

A comparison of the phases of FMU establishment, as outlined in Government Regulation No. 6 of 2007 jo. No 3 of 2008 on Forest Arrangement, Forest Management Plan Preparation, and Forestland Utilization versus *Tahura* is shown in Table 1 below.

Table 1. Comparison of Readiness

No.	FMU	Tahura
1	Working area designation	Tahura designation
2	Organization establishment	Mostly managed by a special working unit (UPTD)
3	Long-term Forest Management Plan (RPHJP)	Most <i>Tahura</i> Management Plans have been prepared
4	Business plan development	Business plan is a part of the MP
5	The Implementation of PPK BLUD	?
6	AWP preparation	Working plan has been developed annually for activities and budget (RKP)

Source: Siswanto, Wandojo. 2016. Transformation of Tahura Management into CFMU. 2nd GIZ FORCLIME Quarterly Meeting. May 2016. Jakarta.

Based on Table 1, practically, all phases of FMU development up to its implementation have been fulfilled by the existing management of *Tahura*. *Tahura* is managed as CA; hence the management has not been implementing "Pola Pengelolaan Keuangan Badan Layanan Umum Daerah (PPK BLUD)" (Financial Management Pattern of Regional Public Services Agency). This financial management pattern could be promoted as an encouraging argument for managing a *Tahura* at district/city level.

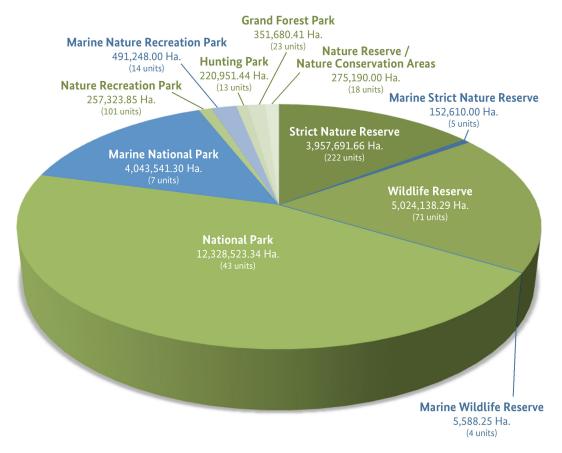
Recommendations

- 1. In order to strengthen the legal basis for CFMU development, a ministerial regulation on the establishment covering development design and management options should be prepared.
- 2. Technical Guidelines in clustering designated non-national park CFMUs should be arranged carefully by considering small adjacent conservation areas to national park as part of national park CFMU.
- 3. *Balai Besar* of national park and natural resources conservation could be considered to take the role in coordinating the management of CFMUs.
- 4. Technical Guidelines for the establishment of *Tahura* as CFMU managed by sub-national government should be developed through consultation of related sub-national governments.
- 5. The feasibility of implementing Financial Management Pattern of Public Services Agency (*PPK-BLU*), including for *Tahura* (*PPK-BLUD*) should be assessed wisely considering the condition of the CFMU.
- 6. MoEF should designate *Tahura* as CFMU and provide guidance in transforming the management of *Tahura* into CFMU.
- The Minister of Environment and Forestry or Director General of Natural Resources and Ecosystem Conservation should provide proposing mechanism as a basis for sub-national governments (Province or District/ City) to propose *Tahura* as CFMU.



Orchids, Betung Kerihun National Park, West Kalimantan. Photograph by I Gusti Ngurah Pradnyana (TNBKDS)

Attachment 1. Recapitulation of Function and Size of Conservation Areas



Total: 27.108.486,54 Ha. (521 units)

Source: Statistik Direktorat Jenderal PHKA 2104 (2015)

Attachment 2. List of National Park CFMU

No.	Name	Location (Province)	Decree	Size (Ha)
1.	Berbek	Jambi	SK.774/Menhut-II/2009	58,000.00
2.	Ujung Kulon	Banten	SK.775/Menhut-II/2009	43,420.00
3.	Gunung Halimun Salak	Jawa Barat	SK.776/Menhut-II/200	19,002.00
4.	Meru Betiri	Jawa Timur	SK.779/Menhut-II/2009	41,330.00
5.	Alas Purwo	Jawa Timur	SK.801/Menhut-II/2009	415,040.00
6.	Bali Barat	Bali	SK.780/Menhut-II/2009	198,629.00
7.	Gunung Rinjani	Nusa Tenggara Barat	SK.781/Menhut-II/2009	89,065.00
8.	Tanjung Puting	Kalimantan Tengah	SK.777/Menhut-II/2009	287,115.00
9.	Kutai	Kalimantan Timur	SK.778/Menhut-II/2009	43,750.00
10.	Bunaken	Sulawesi Utara	SK.782/Menhut-II/2009	87,984.00
11.	Bogani Nani Wartabone	Gorontalo	SK.716/Menhut-II/2010	47,014.00
12.	Bantimurung Bulusarung	Sulawesi Selatan	SK.717/Menhut-II/2010	130,000.00
13.	Manupeu Tanah Daru	Nusa Tenggara Timur	SK.719/Menhut-II/2010	90,000.00
14.	Laiwangi Wanggameti	Nusa Tenggara Timur	SK.714/Menhut II/2010	132,000.00
15.	Way Kambas	Lampung	SK.712/Menhut-II/2010	25,000.00
16.	Gunung Palung	Kalimantan Barat	SK.721/Menhut-II/2010	6,410.00
17.	Danau Sentarum	Kalimantan Barat	SK.715/Menhut-II/2010	60,500.00
18.	Baluran	Jawa Timur	SK.718/Menhut-II/2010	202,896.31
19.	Gunung Merapi	Jawa Tengah	SK.713/Menhut-II/2010	111,625.00
20.	Bukit Dua Belas	Jambi	SK.720/Menhut -II/2010	181,090.00
21.	Sembilang	Sumatera Selatan	SK.748/Menhut-II/2011	5,725.00
22.	Karimunjawa	Jawa Tengah	SK.749/Menhut-II/2011	1,360,500.00
23.	Bukit Baka Bukit Raya	Kalimantan Barat	SK.750/Menhut-II/2011	173,000.00
24.	Gunung Merbabu	Jawa Tengah	SK.751/Menhut-II/2011	5,356.50
25.	Kayan Mentarang	Kalimantan Timur	SK.752/Menhut-II/2011	105,194.00
26.	Komodo	Nusa Tenggara Timur	SK.753/Menhut-II/2011	189,000.00
27.	Kelimutu	Nusa Tenggara Timur	SK.754/Menhut-II/2011	167,300.00
28.	Rawa Aopa Watumohai	Sulawesi Tenggara	SK.755/Menhut-II/2011	72,150.00
29.	Manusela	Maluku	SK.756/Menhut-II/2011	190,500.00
30.	Aketajawe Lolobata	Maluku Utara	SK.757/Menhut-II/2011	38,576.00
31.	Batang Gadis	Sumatera Utara	SK.786/Menhut-II/2012	144,223.00
32.	Siberut	Sumatera Barat	SK.787/Menhut-II/2012	15,500.00
33.	Tesso Nilo	Riau	SK.788/Menhut-II/2012	568,700.00
34.	Bukit Tigapuluh	Riau	SK.789/Menhut-II/2012	2,354,644.00
35.	Gunung Ciremai	Jawa Barat	SK.790/Menhut-II/2012	413,810.00
36.	Sebangau	Kalimantan Tengah	SK.791/Menhut-II/2012	58,000.00
37.	Lorentz	Papua	SK.792/Menhut-II/2012	43,420.00
38.	Wasur	Papua	SK.793/Menhut-II/2012	19,002.00
			Total:	8,373,061.81

 $Source: (http://kph.menlhk.go.id/sinpasdok/pages/pencariandata_kphk)$

Attachment 3. List of non-National Park CFMU

No.	Name	Location (Province)	Decree	Size (Ha)
1.	Arau Hilir	Sumatera Barat	SK.982/Menhut-II/2013	105,375.00
2.	Parawen	Kalimantan Tengah	SK.473/Menlhk/Setjen/PLA.0/6/2016	5,855.00
3.	Kphk Lamandau	Kalimantan Tengah	SK.474/Menlhk/Setjen/PLA.0/6/2016	61,425.00
4.	Bedugul Sangeh	Bali	SK.475/Menlhk/Setjen/PLA.0/6/2016	3,635.00
5.	Bukit Kaba	Bengkulu	SK.469/Menlhk/Setjen/PLA.0/6/2016	15,133.00
6.	Enggano	Bengkulu	SK.470/Menlhk/Setjen/PLA.0/6/2016	9,374.00
7.	Pati Barat	Jawa Tengah	SK.471/Menlhk/Setjen/PLA.0/6/2016	1,426.00
8.	Sorong Klamono	Papua Barat	SK.456/Menlhk/Setjen/PLA.0/6/2016	2,990.00
9.	Cilacap	Jawa Tengah	SK.472/Menlhk/Setjen/PLA.0/6/2016	982.00
10.	Bukit Rimbang Bukit Baling	Riau	SK.468/Menlhk/Setjen/PLA.0/6/2016	142,156.00
11.	Pamona	Sulawesi Tengah	SK.462/Menlhk/Setjen/PLA.0/6/2016	35,125.00
12.	Bakiriang	Sulawesi Tengah	SK.461/Menlhk/Setjen/PLA.0/6/2016	17,479.00
13.	Giam Siak Kecil Bukit Batu	Riau	SK.467/Menlhk/Setjen/PLA.0/6/2016	99,858.00
14.	Kuala Lupak	Kalimantan Selatan	SK.466/Menlhk/Setjen/PLA.0/6/2016	4,008.00
15.	Kintamani	Bali	SK.476/Menlhk/Setjen/PLA.0/6/2016	2,649.00
16.	Morowali Sk 2016	Sulawesi Tengah	SK.460/Menlhk/Setjen/PLA.0/6/2016	216,908.00
17.	Arfak	Papua Barat	SK.458/Menlhk/Setjen/PLA.0/6/2016	68,325.00
18.	Waigeo	Papua Barat	SK.459/Menlhk/Setjen/PLA.0/6/2016	264,073.00
19.	Gunung Meja Sidei Kaironi	Papua Barat	SK.457/Menlhk/Setjen/PLA.0/6/2016	968.00
20.	Pangi Binangga	Sulawesi Tengah	SK.463/Menlhk/Setjen/PLA.0/6/2016	70,997.00
21.	Gunung Tinombala	Sulawesi Tengah	SK.464/Menlhk/Setjen/PLA.0/6/2016	38,608.00
22.	Kphk Gunung Dako	Sulawesi Tengah	SK.465/Menlhk/Setjen/PLA.0/6/2016	21,659.00
23.	Bolmalit Maghlit	Papua Barat	SK.450/Menlhk/Setjen/PLA.0/6/2016	9,194.00
24.	Dangku Bentayan	Sumatera Selatan	SK.983/Menhut-II/2013	89,574.00
25.	Guntur - Papandayan	Jawa Barat	SK.984/Menhut-II/2013	15,318.00
26.	Gunung Melintang	Kalimantan Barat	SK.987/Menhut-II/2013	25,127.00
27.	Jayawijaya	Papua	SK.991/Menhut-II/2013	800,000.00
28.	Kerumutan	Riau	SK.981/Menhut-II/2013	120,000.00
29.	Morowali	Sulawesi Tengah	SK.988/Menhut-II/2013	209,400.00
30.	Nantu	Gorontalo	SK.990/Menhut-II/2013	31,215.00
31.	Rawa Singkil	Aceh	SK.980/Menhut-II/2013	102,500.00
32.	Ruteng	Nusa Tenggara Timur	SK.986/Menhut-II/2013	32,248.00
33.	Tambora	Nusa Tenggara Barat	SK.985/Menhut-II/2013	78,116.00
34.	Towuti	Sulawesi Selatan	SK.989/Menhut-II/2013	185,000.00
35.	Sicike Cike	Sumatera Utara	SK.724/Menlhk/Setjen/PLA.0/9/2016	6,144.00
36.	Kawah Ijen	Jawa Timur	SK.725/Menlhk/Setjen/PLA.0/9/2016	2,575.00
37.	Dataran Tinggi Yang	Jawa Timur		12,865.00
38.	Cycloops Youtefa	Papua	SK.727/Menlhk/Setjen/PLA.0/9/2016	33,289.00
39.	Muara Kaman Sedulang	Kalimantan Timur	SK.728/Menlhk/Setjen/PLA.0/9/2016	65,445.00
40.	Taliabu	Maluku	SK.730/Menlhk/Setjen/PLA.0/9/2016	13,114.00
41.	Jakarta	Jakarta	SK.731/Menlhk/Setjen/PLA.0/9/2016	242.00
42.	Kepulauan Krakatau	Lampung	SK.732/Menlhk/Setjen/PLA.0/9/2016	13,365.00
43.	Lambusango	Sulawesi Tenggara	SK.733/Menlhk/Setjen/PLA.0/9/2016	28,595.00
44.	Peropa	Sulawesi Tenggara	SK.734/Menlhk/Setjen/PLA.0/9/2016	44,012.00
45.	Durian Luncuk	Jambi	SK.735/Menlhk/Setjen/PLA.0/9/2016	111.00
46.	Muara Kendawangan	Kalimantan Barat	SK.737/Menlhk/Setjen/PLA.0/9/2016	147,614.00

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Attachment 3. List of non-National Park CFMU (continued)

No.	Name	Location (Province)	Decree	Size (Ha)
47.	Gunung Nyiut	Kalimantan Barat	SK.738/Menlhk/Setjen/PLA.0/9/2016	91,759.00
48.	Simpang Tilu	Jawa Barat	SK.739/Menlhk/Setjen/PLA.0/9/2016	23,356.00
49.	Burangrang Tangkuban Perahu	Jawa Barat	SK.740/Menlhk/Setjen/PLA.0/9/2016	4,772.00
50.	Moyo	Nusa Tenggara Barat	SK.741/Menlhk/Setjen/PLA.0/9/2016	30,945.00
51.	Padang Sugihan	Sumatera Selatan	SK.743/Menlhk/Setjen/PLA.0/9/2016	88,148.00
52.	Harlu	Kalimantan Timur	SK.744/Menlhk/Setjen/PLA.0/9/2016	3,681.00
53.	Gunung Mutis	Nusa Tenggara Timur	SK.745/Menlhk/Setjen/PLA.0/9/2016	12,315.00
54.	Pulau Weh	Aceh	SK.746/Menlhk/Setjen/PLA.0/9/2016	6,481.00
55.	Lingga Isaq	Aceh	SK.747/Menlhk/Setjen/PLA.0/9/2016	86,634.00
56.	Tangkoko	Sulawesi Utara	SK.748/Menlhk/Setjen/PLA.0/9/2016	8,545.00
57.	Yogyakarta	Yogyakarta	SK.749/Menlhk/Setjen/PLA.0/9/2016	632.00
58.	Barumun	Sumatera Utara	SK.694/Menlhk/Setjen/PLA.0/9/2016	36,261.00
			Total	3,647,600.00

 $Source: (http://kph.menlhk.go.id/sinpasdok/pages/pencariandata_kphk)$



Tahapun hill, Betung Kerihun National Park, West Kalimantan. *Photograph by M Heriansyah.*

Attachment 4. List of Taman Hutan Raya in Indonesia

No.	Name	Size (Ha)	Location	Decree
1.	Cut Nyak Dien (Meurah Intan)	6.300	Nanggroe Aceh Darussalam: Kabupaten Aceh Besar	Keputusan Menhut No. 95/Kpts-II/2001, 15 Maret 2001
2.	Bukit Barisan	51.600	Sumatera Utara: Kabupaten Karo, Deli Serdang, dan Langkat	Keppres No. 48 Tahun 1988, 29 November 1988
3.	Dr. Moh. Hatta	12.100	Sumatera Barat: Padang	Keputusan Menhut No. 193/Kpts-II/1993, 27 Maret 1993
4.	Sultan Syarif Hasyim	6.172	Riau: Kabupaten Kampar	Keputusan Menhutbun No. 348/Kpts-II/1999, 26 Mei 1999
5.	Thaha Syaifudin	15.830	Jambi. Lokasinya di kabupaten Batanghari	Keputusan Menhut No. 94/Kpts-II/2001, 15 Maret 2001
6.	Raja Lelo	1.122	Bengkulu: Kabupaten Bengkulu Utara	Keputusan Menuth No. 21/Kpts/VI/1998, 7 Januari 1998
7.	Wan Abdul Rahman	22.245	Lampung: Lampung Selatan	Keputusan Menhutbun No. 679/Kpts-II/1999, 1 September 1999
8.	Ir. H. Djuanda	590	Jawa Barat: Kabupaten Bandung	Keppres No. 3 Tahun 1995, 14 Januari 1995
9.	Palasari	35	Jawa Barat: Kabupaten Sumedang	Keputusan Menhut No. 297/Menhut-II/2004, 10 Agustus 2004
10.	Pancoran Mas Depok	6	Jawa Barat: Kota Depok	Keputusan Menhutbun No. 276/Kpts-II/1999, 7 Mei 1999
11.	Ngargoyoso	231	Jawa Tengah: Kabupaten Karanganyar	Keputusan Menhut No. 233/Kpts-II/2003, 15 Juli 2003
12.	Gunung Bunder	617	DI Yogyakarta: Kabupaten Gunung Kidul	Keputusan Menhut No. 353/Menhut-II/2004, 28 September 2004
13.	R. Suryo (meliputi Gunung Arjuno dan CA Lalijiwo)	27.868,30	Jawa Timur: Kabupaten Mojokerto, Kabupaten Malang, Kabupaten Jombang, Kabupaten Pasuruan dan Kota Batu	Keputusan Menhut No. 80/Kpts-II/2001, 19 Mei 2001
14.	Ngurah Rai	1.392	Bali: Kabupaten Badung	Keputusan Menhut No. 067/Kpts-II/1988, 15 Februari 1988
15.	Nuraksa	3.155	Nusa Tenggara Barat: Kabupaten Lombok Barat	Keputusan Menhutbun No. 244/Kpts-II/1999, 27 April 1999
16.	Prof. Ir. Herman Yohanes	1.900	Nusa Tenggara Timur: Kupang	Keppres No. 80 Tahun 1996, 11 Oktober 1996
17.	Bukit Soeharto	61.850	Kalimantan Timur: Kabupaten Kutai Kartanegara dan Penajam Paser Utara	Keputusan Menhut No. 419/Menhut-II/2004, 19 Oktober 2004
18.	Sultan Adam	112.000	Kalimantan Selatan: Kabupaten Banjar dan Kabupaten Tanah Laut	Keppres RI No. 52 Tahun 1989, 18 Oktober 1989
19.	Murhum	7.877	Sulawesi Tenggara: Kendari	Keputusan Menhutbun No. 103/Kpts-II/1999, 2 Maret 1999
20.	Palu	8.100	Sulawesi Tengah: Palu	Keputusan Menhut No: 461/Kpts-11/1995, 4 September 1995
21.	Poboya Paneki	7.128	Sulawesi Tengah: Donggala	Keputusan Menhutbun No. 24/Kpts-II/1999, 9 April 1999
22.	Bontobahari	3.475	Sulawesi Selatan: Bulukumba	Keputusan Menhut No. 721/Menhut-II/2004, 1 Oktober 2004

 $Source: \textit{Ditjen KSDAE}, \textit{Kementerian Lingkungan Hidup dan Kehutanan}. \ 2016.$

Abbreviations

AWP Annual Work Plan

B/BBTN Balai/Balai Besar Taman Nasional (National Park Management Office)

B/SBKSDA Balai/Sub Balai Konservasi Sumber Daya Alam (Division/ Sub Division of Natural Resources

Conservation)

CA Conservation Area

CFMU Conservation Forest Management Unit

DG of NREC Directorate General of Natural Resources and Ecosystem Conservation

DJ KSDAE Direktorat Jenderal Konservasi Sumber Daya Alam dan Ekosistem
D/SD NRC Division/ Sub Division of Natural Resources Conservation

DWP Development Work Plan

FAO Food and Agriculture Organization
FORCLIME Forests and Climate Change Program

FMP RPSA Financial Management Pattern of the Regional Public Services Agency

FMU Forest Management Unit

GFP Grand Forest Park

GIZ Deutsche Gesellschaft für Internationale Zusammenarbeit

HSA Hutan Suaka Alam (Nature Reserve Forest)

HW Hutan Wisata (Recreation Forest)

KLHK Kementerian Lingkungan Hidup dan Kehutanan (Ministry of Environment and Forestry)

KPA Kawasan Pelestarian Alam (Nature Conservation Area)

KSA Kawasan Suaka Alam (Nature Reserve Area)

LTFMP Long-term Forest Management Plan

METT Management Effectiveness Tracking Tool

MoEF Ministry of Environment and Forestry

NCA Nature Conservation Area
NCP National Conservation Plan
NPMO National Park Management Office

NP TIU National Park Technical Implementation Unit

NRA Nature Reserve Area
NRF Nature Reserve Forest
NRP Nature Recreation Park

PPK BLUD Pola Pengelolaan Keuangan Badan Layanan Umum Daerah (Financial Management Pattern of

Regional Public Services Agency)

PHKA Perlindungan Hutan dan Konservasi Alam (Forest Protection and Nature Conservation)

RF Recreation Forest

RKN Rencana Konservasi Nasional (National Conservation Plan)
RKP Rencana Kerja Pembangunan (Development Work Plan)

RPHJP Rencana Pengelolaan Hutan Jangka Panjang (Long Term Forest Management Plan)

RTIU Regional Technical Implementation Unit

SBKSDA Sub Balai Kawasan Pelestarian Alam (Sub Division of Natural Conservation Area)

SBPPA Sub Balai Perlindungan dan Pengawetan Alam (Sub Division of Natural Resources Protection and

Preservation)

SDNCA Sub Division of Natural Conservation Area

SD NRPP Sub Division of Natural Resources Protection and Preservation

SNR Strict Nature Reserve

SM Suaka Margasatwa (Wildlife Reserve)
Tahura Taman Hutan Raya (Grand Forest Park)

TIU Technical Implementation Unit

TIU NRC Natural Resources Technical Implementation Unit Conservation

TWA Taman Wisata Alam (Nature Recreation Park)

UPT KSDA Unit Pelaksana Teknis Konservasi Sumber Daya Alam (Natural Resources Technical

Implementation Unit Conservation

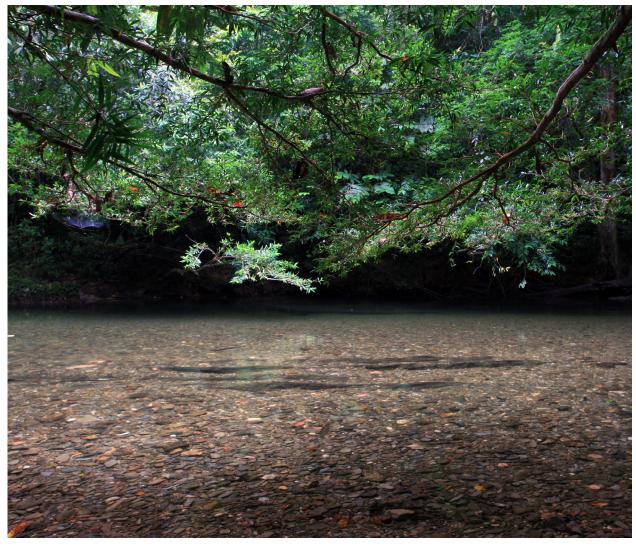
UPT TN Unit Pelaksana Teknis Taman Nasional (National Park Technical Implementation Unit)

UNDP United Nations Development Programme

UPTD Unit Pelaksana Teknis Dinas Daerah (District Technical Implementation Unit)

WR Wildlife Reserve

WWF World Wide Fund for Nature (prev.: World Wildlife Fund)



River, Taman Nasional Betung Kerihun, Kalimantan Barat.

Photograph by I Gusti Ngurah Pradnyana (TNBKDS)

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