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Project FireFight South East Asia

**A Review of Legal, Regulatory and Institutional Aspects of Forest and Land Fires in Indonesia**



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Prepared by

*Dr. Dicky Simorangkir & Sumantri*



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## Preface

The forest fires of 1997 and 1998 created enormous ecological damage and human suffering and helped focus world attention on the problem. There is a growing concern within **WWF – The World Wide Fund for Nature** and **IUCN – The World Conservation Union** that action is needed to catalyse a strategic international response to forest fires. There are no ‘magic bullets’ or ‘instant solutions’. The issues to be addressed are complex and cut across many interests, sectors, communities, nations and regions. WWF and IUCN believe that action only take place when fires are burning, with little attempt to address the underlying causes.

This is why the two organisations have joined forces and developed **Project Firefight South East Asia** to secure essential policy reform through a strategy of advocacy using syntheses and analyses of existing information and new outputs. More specifically, the project aims to enhance the knowledge and skills of key stakeholders with regard to forest fire prevention and management and, where necessary, to facilitate the adoption of new and/or improved options. The project works at the national and regional levels across South East Asia to support and advocate the creation of the legislative and economic bases for mitigating harmful anthropogenic forest fires.

As the problem of forest fires lies beyond the capacity of national governments and international organisations to handle alone, the project pursues a multiple stakeholder approach. By combining WWF’s extensive network of National Organisations and Programme Offices in South East Asian, IUCN’s broad-based membership, world-renowned scientific commissions, and collaboration with ASEAN governments, UN agencies, EU projects, CIFOR, ICRAF, RECOFTC, universities, etc., the project ensures popular participation, public awareness, policy outreach and programmatic impact in connection with fire-related issues.

Project FireFight South East Asia undertook studies focusing on three areas of fire management: community-based fire management, legal and regulatory aspects of forest fires, and the economics of fire use in South East Asia. The expected results of these studies are the identification of political, private sector and civil society stakeholders and the legal, financial and institutional mechanisms appropriate to South East Asia that can positively influence their fire-related behaviour. In addition, national and international policies, which promote, or fail to discourage, forest fires are identified.

This report is a review and analysis of legal, regulatory, and institutional aspects of forest fires in Indonesia emphasising the issue of legality and accountability, enforcement, bureaucratic incapacity, reluctance to enact laws and apparent conflicts and inconsistencies within existing legal, regulatory and institutional instruments at various levels. Based on the analysis, possible options, including non-legal approaches, to address these shortcomings are identified. It is anticipated that this report will be a valuable reference for relevant stakeholders, particularly the Indonesian government, to develop appropriate mechanisms to address the issues of forest fires, smoke and haze.

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Mrs. Lay Cheng Tan edited and prepared the layout of this report.

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## List of Abbreviations

APBD	Anggaran Pendapatan Belanja Daerah (Provincial/District Budgeting System)
APBN	Anggaran Pendapatan Belanja Negara (National Budgeting System)
APHI	Asosiasi Pengusahaan Hutan Indonesia (Association of Indonesian Forest Concession Holder)
Bakornas PB	Badan Koordinasi Nasional Penanggulangan Bencana (National Coordinating Board for Disaster Management)
Bakornas PBA	Badan Koordinasi Nasional Penanggulangan Bencana Alam (National Coordinating Board for Natural Disaster Management)
Bakornas PBP	Badan Koordinasi Nasional Penanggulangan Bencana dan Penanganan Pengungsi (National Coordinating Board for Disaster Management and Refugee Control)
Bapedal	Badan Pengendalian Dampak Lingkungan (Environmental Impact Management Agency)
Bapedalda	Bapedal Daerah (Local Environmental Impact Management Agency)
Bapedalwil	Bapedal Wilayah (Regional Environmental Impact Management Agency)
Baplan	Badan Planologi (Forest Land-Use Agency), former INTAG
Badan SAR	SAR (Search and Rescue) Agency
BKPH	Bagian Kesatuan Pengusahaan Hutan (Forest Management Sub-Unit)
BKSDA	Balai Konservasi Sumberdaya Alam (Agency for Natural Resource Conservation)
BMG	Badan Meteorologi dan Geofisika (Meteorology and Geophysical Agency)
BPHN	Badan Pembinaan Hukum Nasional (National Law Agency)
BPK	Bina Produksi Kehutanan ([Directorate General of] Forest Product Management), former PHP
BPKKP	Badan Penolong Keluarga Korban Perang (Aid Agency for Families of War Victims)
BPN	Badan Pertanahan Nasional (National Land Agency)
BPPT	Badan Pengkajian dan Penerapan Teknologi (Assessment and Application of Technology Agency)
BP2BA	Badan Pertimbangan Penanggulangan Bencana Alam (Central Agency for Natural Disaster Management)
Bupati	Head of District
CIFOR	Center for International Forestry Research
Dephut	Departemen Kehutanan (Ministry of Forestry)
Disbun	Dinas Perkebunan (Plantation Service)
Dishut	Dinas Kehutanan Propinsi (Provincial Forestry Service)
Dishut Kabupaten	District Forestry Service

DPRD	Dewan Perwakilan Rakyat Daerah (Provincial/District House of Representative)
Ekkuwasbang	Ekonomi, Keuangan, dan Pengawasan Pembangunan ([Coordinating Ministry of] Economic, Finance and Development Control)
HTI	Hutan Tanaman Industri (Industrial Timber Plantation)
ICEL	Indonesian Centre for Environmental Law
IPK	Ijin Pemanfaatan Kayu (Timber Utilization Permit)
Indag	Industri dan Perdagangan ([Ministry of] Industry and Trade)
Inhutani (I-V)	State-owned forest companies
INTAG	Inventarisasi dan Tata-Guna Hutan ([Directorate General of] Forest Inventory and Land-Use)
LAPAN	Lembaga Penerbangan dan Antariksa Nasional (National Institute of Aeronautic and Space)
Kabupaten	District
Kanwil	Kantor Wilayah (Regional office)
Kecamatan	Sub-district
Keppres	Keputusan Presiden (Presidential Decree)
KKN	Korupsi, Kolusi, dan Nepotisme (Corruption, Collusion, and Nepotism)
KPH	Kesatuan Pengusahaan Hutan (Forest Management Unit)
Menko Kesra&Taskin	Menteri Koordinator Kesejahteraan Rakyat dan Pengentasan Kemiskinan (Coordinating Minister for People's Welfare and Poverty Alleviation)
NGO	Non-Governmental Organisation
PAD	Pendapatan Asli Daerah (Real Provincial/District Income)
Perum Perhutani (I-III)	State-owned forest companies
PH	Pengusahaan Hutan ([Directorate General of] Forest Utilisation)
PHP	Pengusahaan Hutan Produksi ([Directorate General of] Production Forest Utilisation), former PH
PHKA	Perlindungan Hutan dan Konservasi Alam ([Directorate General of] Forest Protection and Nature Conservation), former PKA
PHPA	Perlindungan Hutan dan Pelestarian Alam ([Directorate General of] Forest Protection and Nature Conservation)
PKA	Perlindungan dan Konservasi Alam ([Directorate General of] Nature Protection and Conservation), former PHPA
Poskolakdalkarhutla	Pos Komando Pelaksana Pengendalian Kebakaran Hutan dan Lahan (Command Post for Forest and Land Fire Control Implementation)
PP	Peraturan Pemerintah (Government Regulation)
Propinsi	Province
Pusdalkarhut	Pusat Pengendalian Kebakaran Hutan (Forest Fire Control Centre)
Pusdalkarhutda	Pusat Pengendalian Kebakaran Hutan Daerah (Regional Forest and Land Fire Control Centre)
Pusdalkarhutla	Pusat Pengendalian Kebakaran Hutan dan Lahan (Forest and Land Fire Control Centre)
Pusdalkarhutnas	Pusat Pengendalian Kebakaran Hutan Nasional (National Forest Fire Control Centre)

RLPS	Rehabilitasi Lahan dan Perhutanan Sosial ([Directorate General of] Land Rehabilitation and Sosial Forestry), former RRL
RPH	Resor Pengusahaan Hutan (Forest Management Resort)
RRL	Reboisasi dan Rehabilitasi Lahan ([Directorate General of] Reforestation and Land Rehabilitation)
Satgas PBP	Satuan Tugas PBP (Task Force PBP)
Satkorlak PBP	Satuan Koordinasi Pelaksana PBP (Implementation Coordination Unit PBP)
Satlak PBP	Satuan Pelaksana PBP (Implementation Unit PBP)
Satlakdalkarhutla	Satuan Pelaksana Pengendalian Kebakaran Hutan dan Lahan (Implementation Unit for Forest and Land Fire Control)
SK	Surat Keputusan (Decree)
TKNKL	Tim Koordinasi Nasional Kebakaran Lahan (National Coordination Team for Land Fire)
TKNPKHL	Tim Koordinasi Nasional Pengendalian Kebakaran Hutan dan Lahan (National Coordination Team for Forest and Land Fire Control)
TKPKHL	Tim Koordinasi Pengendalian Kebakaran Hutan dan Lahan (Provincial Coordination Team for Forest and Land Fire Control)
TKP2BA	Tim Koordinasi Pusat Penanggulangan Bencana Alam (National Co-ordination Team for Natural Disaster Management)
UU	Undang-Undang (Act)

## Executive Summary

Indonesia has experienced forest and land fire problems in the past — often associated with extended drought — mainly due to indiscriminate land clearance activities, widespread use of fire to clear previously logged forest and other degraded land in preparation for oil palm, rubber or pulpwood plantations.

In dealing with these problems the Indonesian government has issued numerous laws, regulations, decrees, guidelines, and directives on the management of forest and land fires, especially in the past decade. At the same time, a cross- and multi-sectoral organisational and institutional structure for forest and land fire management at different levels has been developed.

However, the experiences in the last two decades have shown that the developed legal, regulatory and institutional approaches were ineffective for various reasons. This study has identified some main constraints, weaknesses and basic problems in implementing laws and regulations on forest and land fire management, including:

- Lack of political will from the government at all levels;
- Unclear and weak policies and regulations;
- Overlapping and conflicting roles and responsibilities of different agencies and institutions;
- Bureaucratic procedures and poorly coordinated activities at all levels;
- Sectoral approach, mainly focused on suppression instead of prevention;
- Vested interests that marginalize issues relating to fire and haze to favour a particular sector; and
- Inadequate resources (finance, technology, manpower, skills and data) to enforce laws and regulations.

To overcome these constraints and weaknesses and to create conducive conditions for the management of forest and land fires in Indonesia, some basic requirements needed, such as

- Active participation of all relevant stakeholders at all levels in comprehensive and integrated programmes and activities;
- Development of incentive schemes;
- Development of comprehensive land-use management planning with clear definition of land ownership and appropriate land allocation based on balanced consideration of economy, ecology and social factors; and
- Rigorous law enforcement against violation.

Additionally, this study gives some specific technical recommendations to improve the effectiveness and efficiency of the legal, regulatory and institutional frameworks on forest and land fires:

a) In relation to legal and regulatory aspects:

- Develop clear procedures and mechanisms for developing laws and regulations;
- Integrate and consolidate current regulatory regimes under one comprehensive law on forest and land fire management with its corresponding decrees, rules and regulations;
- Synchronise and harmonise laws and regulations on forest and land fires with those from other sectors (e.g. plantation); and
- Integrate the following proposals for national legal regimes on forest fire management:

- All terms used in legal instruments related to forest fire management should be technically sound, clearly defined and consistently used throughout the regulatory regime;
- The regulatory regime should provide a balance of prevention and mitigation measures;
- Measures for forest fire prevention and control should apply to all categories of forests and extend to areas outside forests and plantations;
- Offenders should be responsible for costs incurred in rehabilitating burnt forest areas;
- Fines should be pegged to the cost of restoring areas burnt, in addition to fixed penalties for specific violations. The regulatory regime could establish a national fund for restoring areas burnt by forest fires;
- Clear guidelines should be established on what constitutes sufficient evidence to prove violations to ensure that charges against offenders can be sustained in court;
- Unambiguous enforcement provisions and institutional mechanisms to implement them should be set up; and
- In addition to assigning penalties for violations by private sector actors, the forest fire regulatory regime should set accountability standards for public sector authorities and specify the consequences of failures to meet those standards.

b) In relation to institutional aspect:

- Establish clear definition and appropriate distribution of fire management responsibilities and roles of governmental agencies and other stakeholders related to various types of land ownership and different tasks in fire management.
- Improve coordination and cooperation within and among various governmental agencies through clearly defined and agreed procedures and mechanisms. Moreover, the agency responsible for fire management must have sufficient authority to conduct cross-sectoral coordination among relevant agencies. If this is not possible, then a forum or board with high-level government officers from different agencies should be assigned the responsibility. This forum/board should be a permanent institution that allows development of long-term strategies and implementation of permanent activities.
- Define clear organisational structure within an agency, and in the case of a coordination forum/board, among involved agencies.
- Allocate sufficient resources, especially financial, staff and equipment.
- Improve skills and knowledge through both formal and informal education.

# 1. Introduction

Forest and land fires are not new issues in Indonesia. Fires have occurred for centuries resulting from human activities such as slash-and-burn agricultural practices. However, even in the dry periods, the scale and intensity of forest and land fires before 1980s were limited and affected the local environment, economy and social life minimally. In the last two decades, extensive fire use in land conversion and clearing, and poor forest logging practices have changed the situation dramatically. Especially during November 1982-April 1983, August 1990, June-October 1991, August-October 1994, and September-November 1997 (and February-May 1998), widespread forest and land fires broke out, causing deaths, health problems, economic loss - nationally and regionally - and ‘uncountable’ impacts such as loss of biodiversity and habitats, and potentially global warming. The 1997 outbreak has been seen as the worst fire occurrence in Indonesia and South East Asia for the last 15 years. Its impact was so devastating that there was a prompt outcry from the international community and calls for the Indonesian government to take more serious and proactive efforts in dealing with the problem.

Some studies and reviews found that forest and land fires are basically caused largely by forest conversion and land clearing (Glover, D. and T. Jessup, 1998 & 1999; Bappenas, 1999b). The World Bank (2001) further assessed the causes of the 1997/98 fire as shown in Table 1, laying the onus on the government’s development policy, inconsistency and poor implementation due in part to its weak regulatory and institutional frameworks.

**Table 1: Causes of the 1997/98 forest fire in Indonesia**

Cause	%
Large-scale land conversion	34
Shifting cultivation	25
Permanent agriculture	17
Social conflict with local community	14
Transmigration	8
Natural causes	1

Source: World Bank, 2001.

The government has taken various measures to prevent the recurrence of such large-scale forest and land fires and to improve the efficiency and effectiveness of forest and land fire management programmes and activities. Numerous laws and regulations on fire management have been issued, supported by an extensive cross-and multi-sectoral organisational and institutional structure at various levels across Indonesia. However, the situation remains unchanged so far.

This study will evaluate the existing legal, regulatory and institutional frameworks on forest and land fires in Indonesia, with special attention on the country's ongoing decentralisation process after the fall of the former President Suharto in 1998.

## 2. Legal and regulatory frameworks

Indonesia's development of the legal and regulatory frameworks on forest and land fire issues can be divided into three phases:

- the Dutch colonial period, before the independence of Indonesia in 1945;
- between 1945 and the fall of New Order (Suharto) Regime in 1998; and
- the 'Reformation' period from 1998.

### 2.1. Dutch colonial period

From the legal point of view, the management of forest and land fires in Indonesia began in the second quarter of 20th century, when Indonesia was still a Dutch colony. Basically, all the regulations issued during that period were intended to protect the state forests in Java and Madura, more specifically the valuable teak plantations, and nature reserves from fire and to control the local communities' agricultural burning activities.

In 1927, for example, a Forest Ordonansi for Java and Madura prohibited the use of fire in state forests including sanction or punishment for any violation (Article 20, Paragraph 1 and 2). Likewise, the Provinciale Bosverordening Midden Java, issued by the local government in Central Java in 1932, regulated fire use during dry periods with very detailed guidelines and procedures (time/period, site, techniques, etc.) and directed the activities on fire preparedness during dry/fire season (Article 14). Other regulations such as the Rijksblad-Soerakarta Ongko 11. Pranatane Papatih Dalem Katitimangsan Kaping 30 Agustus 1939 ongko 7 (Rijksblad-Soerakarta Kingdom No. 11 concerning the regulations related to forest management in Kesunanan Soerakarta<sup>1</sup> on August 30, 1939 No. 7), particularly Articles 45 and 50, and the Rijksblad-Soerakarta Ongko 12. Pranatane Papatih Dalem Katitimangsan Kaping 30 Agustus 1939 ongko 8 (Rijksblad-Soerakarta Kingdom No. 12 concerning the regulation related to forest management in Kesunanan Soerakarta on August 30, 1939 No. 8), particularly Article 11, contain similar contents.

### 2.2. From 1945 to the New Order Regime

The colonial regulations were still in force after Indonesia became independent in 1945. Until the early 1960s, the laws and regulations on forest and land fires in Indonesia did not change significantly. Fire was not a major issue to warrant special mention or a section in the regulations. It was reflected also in the institutional structure of

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<sup>1</sup> During the Dutch colonial period, Kesunanan Soerakarta was a 'sultanate' located in Central Java. Under the Indonesian government, Kesunanan Soerakarta still keeps its status as an 'autonomous' sultanate without administrative authority outside the palace area. Its huge former administrative area was split and integrated into a few districts.



government agencies at all levels, where there was no special section or unit dealing with forest and land fire issues. Land and forest management activities focused mainly on Java and not on the other islands with their extensive forest and land resources. Additionally, fires in those days were small in scale with negligible social, economy and environmental impacts.

The few regulations that focused on forest prevention at the local level were:

- Lombok Raad on May 30, 1947 regulating fire prevention in the forest, bush (alang-alang/*Imperata cylindrica*) and other plantations on idle land.
- Kingdom's Council of Bali No. 9/1948 formally announced administration and arrangement of burning practices.

With the beginning of large-scale forest and land management activities in the outer islands that was triggered by the Agrarian and Forestry Act in the mid-1960s, forest protection received greater attention. However, forest fire management remained unimportant, and was only mentioned as a by-line, e.g. "Forest protection efforts including to prevent and mitigate the degradation of forest and forest product caused by ..., fire, ...."<sup>2</sup> Nevertheless, for the first time a legal basis for forest management, including fire management, prevailed across the country.

During the 1970s, forest fire regulation saw no major changes until the mid-1980s, especially after big fire outbreaks in 1982/83. The massive forest destruction and large-scale land conversion to plantations led to increasing forest and land fire occurrences. The immense negative social, economic, and environmental impacts of fire and haze, but particularly the increasing pressure from the international community, forced the Indonesia government to focus on more comprehensive actions including improvement of the legal and regulatory frameworks. Since then many regulations have been developed at different levels (Box 1).

Table 2 lists the most important regulations on land and fire management issues that are still in effect today. Their contents are briefly described in Appendix 1. Important notes about these regulations include:

- Government Regulation No. 28 of 1985 on Forest Protection was actually the first to specifically regulate the forest fire prevention and suppression effort nationally. It carries three important points:
  - 1) Forest burning practices in Indonesia have been prohibited with exception for special cases approved by the legal authority (Article 10, Paragraph 1);
  - 2) Community living surrounding forest area shall obligate to participate in forest prevention and suppression efforts (Article 10, Paragraph 2); and
  - 3) Prevention and suppression efforts of forest fires in the province shall be regulated by Provincial Regulation with consideration of the Decree of the Minister for Forestry (Article 10, Paragraph 3).
- The Minister's Decree mentioned above was issued one year later as the Decree of the Minister for Forestry No. 195/Kpts-II/1986 on Guidelines for Forest Fire Prevention and Suppression Efforts. This is the first national prevailing regulation that provided guidelines on the development of provincial and district forest fire organisations, such as

<sup>2</sup> Forestry Act No. 5 of 1967, Chapter V, Article 15, Paragraph (1) to (4).

### Box 1: Hierarchy of regulations

The Indonesian Forest Policy has a basis in the Constitution 1945 (Undang-Undang Dasar 1945), which mandates the government to manage all natural resources in Indonesia for the welfare of people (Article 33). This is implemented through various regulations, which were issued by the government and institutions/agencies at different levels. Under the Constitution, Indonesian regulations follow the hierarchy below (from the highest to the lowest):

- People's National Assembly Decision (Ketetapan MPR)
- Act (Undang-Undang)
- Regulation Change of Act (Peraturan Pengganti Undang-Undang)
- Government Regulation (Peraturan Pemerintah)
- Presidential Decree (Keputusan Presiden)
- [Ministerial Decree (Keputusan Menteri)]
- Local (Provincial and District) Regulation (Peraturan Propinsi dan Peraturan Kota/Kabupaten)

However, Act No. 22/1999 and Government Regulation No. 25/2000 that regulate the decentralisation of authority from the central to local governments brought changes and generated an 'autonomy euphoria'. Most of the local provincial and district governments became reluctant to acknowledge Ministerial Decrees from Jakarta. The situation has been worsened with the issuing of the People's National Assembly Decision (Ketetapan MPR) No. III/MPR/2000 concerning regulation order/hierarchy, because it did not mention the Ministerial Decrees at all. The resulting confusion, conflicts and overlapping between Ministerial Decrees and Local Regulations necessitated a clarification from the central government through the Minister for Justice and Human Right Letter No. M.Um.01.06-27 dated 23 February 2001, stating that:

- The position of Ministerial Decree is between Presidential Decree and Local Regulation.
- The position of Ministerial Decree is higher than Local Regulation.

Furthermore, because a Minister function as an assistant to the President and a Ministerial Decree usually contains issues of national importance, the Ministerial Decree, therefore, prevails for the whole Republic.

Pusat Pengendalian Kebakaran Hutan (Pusdalkarhut - Centre of Forest Fire Control), Pos Komando Pelaksana Pengendalian Kebakaran Hutan (Poskolakdalkurhat - Command Post for Forest and Land Fire Control Implementation), and Satuan Pelaksana PBP (Satlak PBP - Implementation Unit PBP) (see Section III.2.1.3). The decree was revised in 1995 with the Decree of the Minister for Forestry No. 260/Kpts-II/1995, which also established the Pusat Pengendalian Kebakaran Hutan

Nasional (Pusdalkarhutnas - National Centre of Forest Fire Control) (see Section III.1.2).

- One of the most important legal products in this period is the Environmental Management Act No. 23 concerning Environment Management that was issued in 1997 and superseded the Act No 4 of 1982 concerning Basic Provisions for the Management of Living Environment. This was a big step towards the law enforcement related to forest and land fire issues. In the past, fire ignition was seen as a ‘personal-crime’ and guilty could deflect the accusations. The new act recognises corporate liability for environmental crime, including the crime causing forest and land fires. Thus, that every concession or plantation company is responsible for fire outbreaks in its concession area. The experience in Riau, Sumatra in 2001 has shown that the new act is, to some extent, effective enough to sanction the suspected fire offenders (Box 2).
- Until 1998, ‘fire problems’ have been treated sectorally, either as forestry, agricultural or, more generally, environmental issues. Except Act No. 23 of 1997, all national-level regulations were not higher than the Ministerial Decrees, particularly from the Ministry of Forestry and Minister for Environment, which prevail only sectorally. Even after several ‘national disaster’ fire outbreaks since 1982/83, no effort has been made to develop a nationally binding and comprehensive legal basis for forest and land fire management.
- Apart from those listed in Table 2, there are many other regulations issued by Directorate Generals within different ministries, particularly Ministry of Forestry and Ministry of Agriculture. However, they are omitted because they can be seen only as Technical Guidelines and factually have no ‘binding-power’ over other stakeholders involved in forest and land fires issues. They prevail only for specific sectors. Examples from such technical guidelines are the Decrees of the Director General of Forest Protection and Nature Conservation No. 242-248/1994, the Decree of the Director General of Forest Utilization No. 222/1994, and the Decree of the Director General of Plantation No. 38/1995, which are clearly directed at the forest and plantation concessionaires ‘only’ (Figure 1).
- Most of the Technical Guidelines and the Ministerial Decrees mentioned focus on suppression and/or crisis management aspects and not on fire management *per se*.

**Table 2: Important regulations on forest and land fire issues**

Regulation	Issued	Remarks
Act No. 4/1982 on Basic Provisions for the Management of Living Environment	1982	
Government Regulation No. 28/1985 on Forest Protection	1985	Will be strengthened
Forestry Ministerial Decree No. 523/Kpts-II/1993 on Forest Protection in Concession Area	1993	
Forestry Ministerial Decree No. 188/Kpts-II/1995 on Establishment of the National Forest Fire Control Centre (Pusdalkarhutnas)	1995	
Forestry Ministerial Decree No. 260/Kpts-II/1995 on Guidelines for Forest Fire Prevention and Suppression Efforts	1995	Superseded Forestry Ministerial Decree No. 195/Kpts-II/1986
Decree of the Head of Environmental Impact Management Agency (Bapedal) No: Kep-135/1995 on Organisation and Work System of Bapedal	1995	
Decree of the Head of Environmental Impact Management Agency (Bapedal) No: Kep-136/1995 on Organisation and Work System of Regional Bapedal	1995	
Decree of the Minister for Environment No. Kep-18/MenLH/1995 on National Coordinating Team for Land Fire (TKNKL)	1995	
Decree of the Minister for Environment No Kep-07/MenLH/2/1996 on the Establishment of the Secretariat of National Coordinating Team for Land Fire (TKNKL)	1996	
Decree of the Minister for Environment No. Kep-40/MenLH/3/1997 on National Coordinating Team on Forest and Land Fire Control (TKNPKHL)	1997	
Forestry Ministerial Decree No. 365/Kpts-II/1997 on National Mascot for Forest Fire Control	1997	
Act No. 23/1997 on Environment Management	1997	Superseded Act No. 4/1982
Forestry Ministerial Decree No. 97/Kpts-II/1998 on Emergency Procedure for Forest Fire Crisis	1998	Revised Forestry Ministerial Decree No. 260/Kpts-II/1995
Act No. 22/1999 on Regional Government Administration	1999	
Decree of the Minister for Forestry and Estate Crops No. 107/Kpts-II/1999 on Plantation Permit	1999	
Act No. 41/1999 on Forestry	1999	Superseded Act No. 5/1967

Table 2. Continued

Regulation	Issued	Remarks
Decree of the Coordinating Minister for People's Welfare and Poverty Alleviation No. 06/Kep/Menko/Kesra/III/2000 on the Establishment of Judicial Coordinating Team for Forest and Land Fires	2000	
Government Regulation No. 25/2000 on Government Authority and Provincial Authority as a Autonomy Region	2000	
Government Regulation No. 84/2000 on Guidelines for Regional Organisation	2000	
Presidential Decree No. 3/2001 on National Coordinating Board for Disaster Management and Refugee Control (Bakornas PBP)	2001	Superseded Presidential Decree No. 106/1999
Secretary Bakornas PBP Decree No. 1/2001 on Organisation and Work System of Bakornas PBP Secretariat	2001	
Government Regulation No. 4 of 2001 on Control of Environmental Degradation and Pollution in Correlation with Forest and Land Fires	2001	
Government Regulation No. 39/2001 on Execution of De-concentration	2001	
Decree of the Head of Environment Impact Control Agency (Bapedal) No: Kep-25/2001 on Organisation and Work System of Bapedal	2001	Superseded the Decree of the Head of Environment Impact Control Agency (Bapedal) No: Kep-135/1995
Secretary of Bakornas PBP No. 2/2001 on National Guidelines for Disaster and Refugee Control	2001	
Forestry Ministerial Decree No. 123/Kpts-II/2001 on Organisation and Work System of Ministry of Forestry (Directorate of Forest Fire Control)	2001	
Presidential Decree No. 111/2001 on National Coordinating Board for Disaster Management and Refugee Control (Bakornas PBP)	2001	Superseded Presidential Decree No. 3/2001
Presidential Decree No. 2/2002 regarding the changes of the Presidential Decree No. 101/2001 on Status, Task, Function, Authority, Organization and Work System of the State Ministry	2002	Dissolved the Environmental Impact Management Agency (Bapedal) and merged it into the Ministry of Environment
Presidential Decree No. 4/2002 regarding the changes of the Presidential Decree No. 108/2001 on Organization Unit and Task of Echelon I of the State Ministry	2002	

Note: The regulations are separated into those issued before and after 1998, the year when the New Order Regime failed and the reformation process started. The last two Presidential Decrees were issued during the finalisation of this report.

### 2.3. Reformation period (from 1998)

The fall of the New Order Regime in May 1998 radically changed the political landscape in Indonesia. One of the biggest issues in the so-called 'Reformation' period is the decentralisation and de-concentration of authority and responsibility from the central to the regional (provincial and district) governments in all sectors except for foreign policy, monetary and fiscal matters, defence, judiciary issues and religion. The regional government, particularly at the district level, will gain more power and autonomy.

Issuing the Forestry Act No. 41/1999, which superseded the Forestry Act No. 5/1967, marked the onset of the reformation process in the forestry sector. Heavy pressure from different community groups that demanded changes in the forestry sector, particularly for recognition of traditional law, clarity of local community's forest utilisation rights and their involvement in forest management, was a major factor for the change. The new Act placed more emphasis on forest protection, nature conservation and provision against criminal activity (Appendix 1). Together with Environment Management Act No. 23 /1997, the Forestry Act led to the development of the Government Regulation No. 4/2001 concerning Control of Environmental Degradation and Pollution in Correlation with Forest and Land Fires, which strengthens the criminal provisions stipulated in the Act No. 23/1997.

The government has also developed a Judicial Coordinating Team for Forest and Land Fires with the Decree of the Coordinating Minister for People's Welfare and Poverty Alleviation No. 06/Kep/Menko/Kesra/III/2000, which consists of representatives from various government institutions/agencies such as police, prosecutor, environmental, forestry, plantation agencies, etc. Years of government failures to identify and bring fire offenders to the court (especially after the big fires in 1997/1998) were partly because of the lack of integrated and inter- and cross-sectoral co-ordination among relevant agencies.

Another important legal product in this period is the Decree of Minister for Forestry and Estate Crops No. 107/1999 on Plantation Permit that aims to reduce fire outbreaks in plantations. This decree strengthens the Government Regulation No 28/1985 on Forest Protection, which prohibits the use of fire in land clearing for plantation development.

On the other hand, no nationally binding and comprehensive legal basis for forest and land fire management was developed during this period. Looking at the regulations enacted after the fall of the old regime (Table 2), the regulatory framework focused more on decentralisation and improvement of organisation and work systems of the Ministry of Forestry and Bapedal. Moreover, the government is obviously trying to handle forest and land fire problems through a disaster management approach under the co-ordination of Bakornas PBP and its secretariat.

Unfortunately, the new Forestry and Environment Acts are yet to be supported by revisions of the lower hierarchy Ministerial Decrees, regional regulations and Technical Guidelines, which are necessary for forest and land fire management at the field level. Thus, while most of the 'umbrella' regulations have been revised during the last three years, the 'operational' regulations are not updated (Figure 1). This is particularly important at the regional level since the regional governments now have the main responsibility to manage forest and land fires in their respective province or district. Except for the development of organisational structure for fire management

**Box 2: Effectiveness of regulations**

Following the severe fire outbreaks in 1997/98, 176 forest concessionaires, plantation companies and transmigration area developers that operated mainly in Sumatra and Kalimantan were accused of using fire - mainly in land clearing activities - and warned by the government. The authorities investigated 13 companies and brought 5 companies to the court. However, no company has ever been punished until now.

In 1999, 22 companies were identified to have caused forest fires in their concession areas - 3 were investigated, 3 warned, and 2 received administrative sanction from the Ministry of Forestry.

In 2000, 5 companies in North Sumatra and 1 company in West Kalimantan were under police investigation for the same offences. In Riau, Sumatra, 4 plantation companies received a warning from the Ministry of Forestry, 1 plantation company the second warning, and the Timber Utilisation Permit (IPK/Ijin Pemanfaatan Kayu) granted to 4 plantations and 6 forest concessions were revoked temporarily.

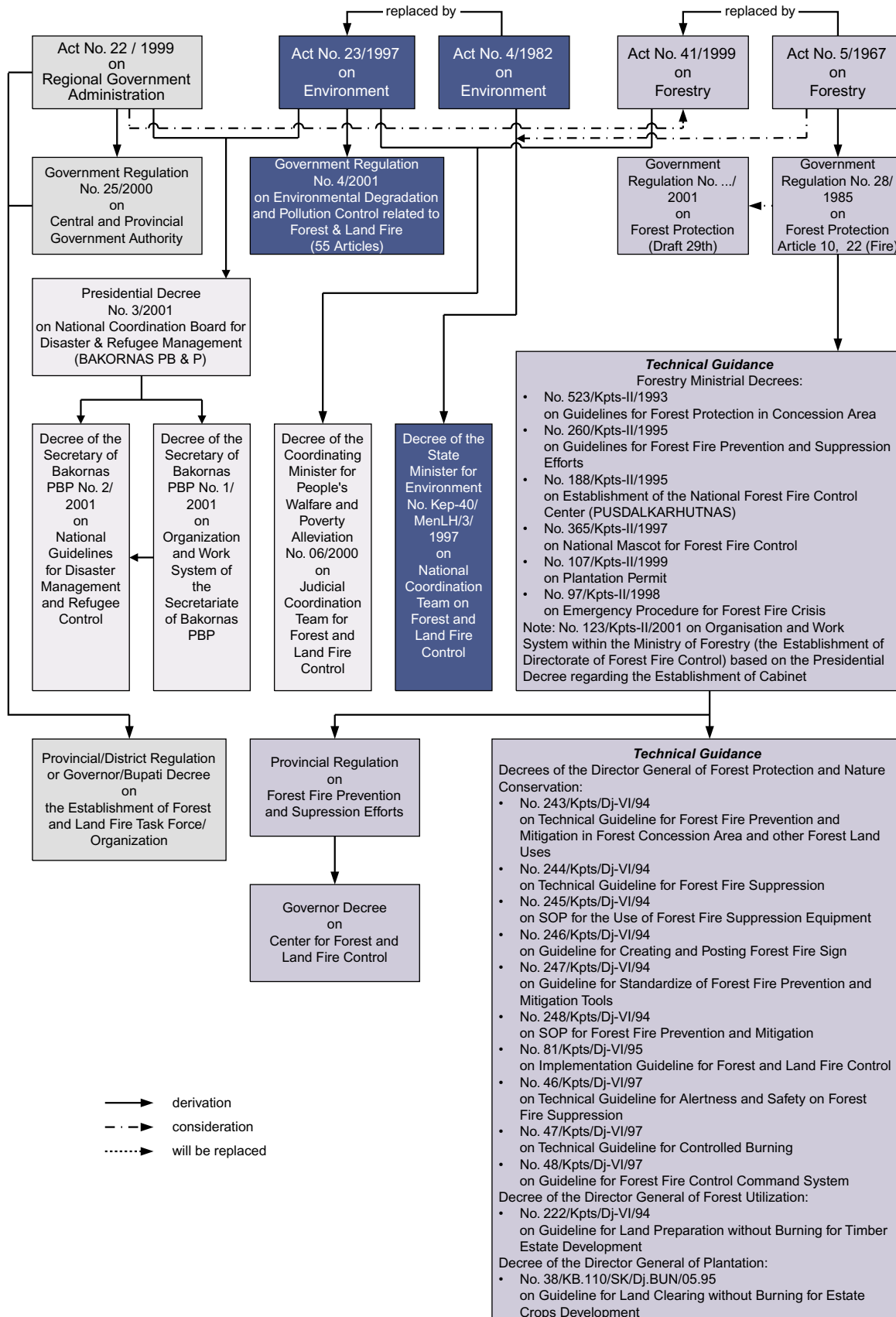
In 2001, 5 plantation companies in Riau were brought to the court for using fire to clear their concession areas. Two cases were dismissed due to the technical difficulties in collecting evidence. Two other cases are still pending. So far, only 1 company, PT. Adei Plantation and Industry, has been found guilty under the Environmental Act No. 23/1997, Article 41 juncto (related to) Article 46. While Article 41 was used to punish company for fire use that results in environmental damages, Article 46 showed that the crime was taken on behalf of or under the command of the company's management, i.e. the General Manager. The company General Manager (Mr. C. Gobi) was sentenced to 2-year imprisonment and the company was fined for Rp 250 million. However, the High Court reduced the sentence to 8 months and the fine to Rp 100 million on appeal by the company.

Furthermore, in the same year, 2 offenders from Way Kambas National Park in Lampung were sentenced to jail for 20 months, and 2 others from different companies in Riau were imprisoned for 3 months and 10 days for setting fire in the forest.

*Sources: Report of the Ministry of Forestry to CGI (Consultative Group of Indonesia) in 2001 and articles in various newspapers.*

in some provinces and districts, no regional government has reformed its legal and regulatory framework for forest and land fires significantly. The few new regulations and technical guidelines at the local level are also more focused on suppression than prevention. Even worse, the regional government tended to ignore the existing regulations from the central government, especially Ministerial Decrees, so that it was necessary for the Minister for Justice and Human Rights to clarify this issue with his Letter No. M.Um.01.06-27 (see Box 1).

Figure 1: Regulations on forest and land fire management in Indonesia





## 3. Institutional framework

At the national level, institutions and agencies that deal with or are responsible for the management of forest and land fires are mainly from the:

- forestry sector, mainly the Ministry of Forestry and Pusdalkarhutnas, because most of fires occurred in forest area due to forest management practices and forest conversion/land clearing activities;
- environmental sector, mainly Bapedal and TKNKL/TKNPKHL, because forest and land fires, including the resulted haze, pollute and damage the environment; and
- disaster management sector, mainly Bakornas, because big-scale forest and land fires can result in disaster for human and environment.

Before 1998, the provincial and district agencies ‘only’ implemented policies determined by the central government in Jakarta. However, since decentralisation, and consequently the following reorganisation of governmental agencies at the provincial and district levels, some major changes are evident. Section 3.1 will focus on three institutions at the national level, and Section 3.2 will describe the institutional framework at the provincial and district levels.

### 3.1. Organisations at the national level

#### 3.1.1. Ministry of Forestry (Departemen Kehutanan)

There was no special unit or section that dealt with forest fire issues until the separation of the Ministry of Forestry (former Directorate General of Forestry) from the Ministry of Agriculture in 1983. Basically because of the severe fire outbreaks during 1982/83, a Forest Fire Section was formed under the Sub Directorate of Forest Security, Directorate of Forest Protection, Directorate General of Forest Protection and Nature Conservation (Perlindungan Hutan dan Pelestarian Alam [PHPA]).<sup>3</sup>

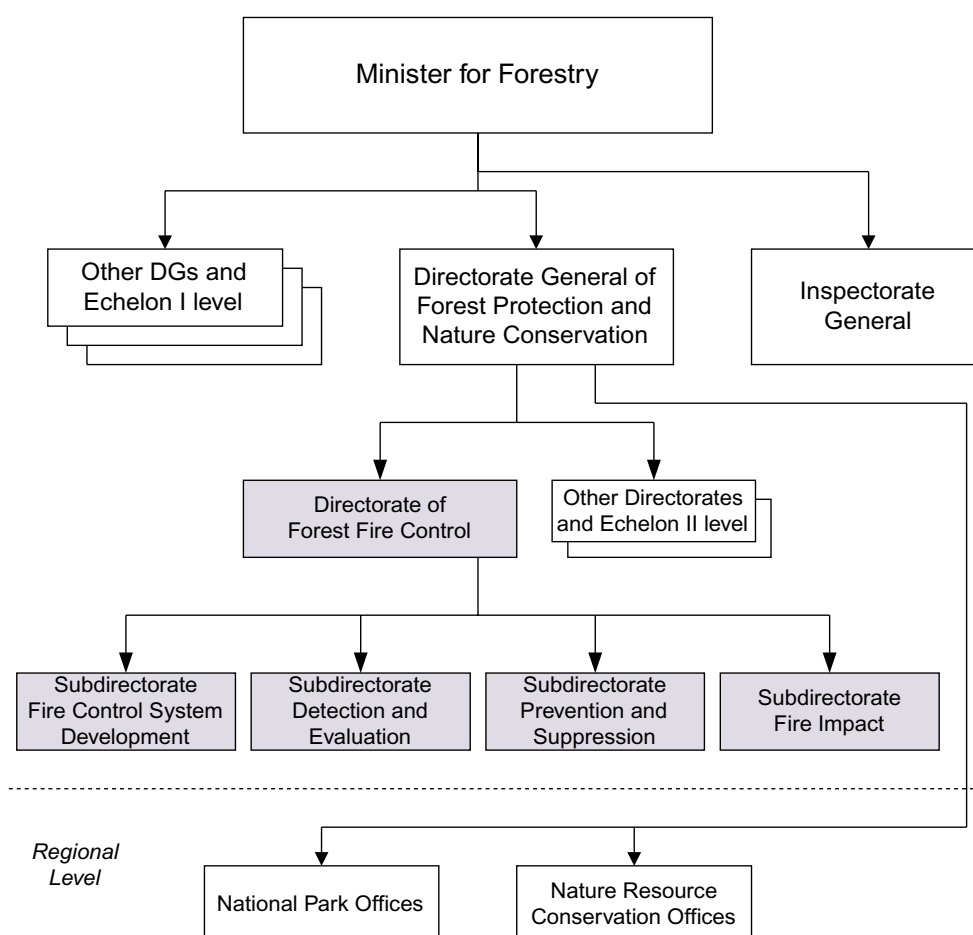
In the next decade, regular fire occurrences, especially major outbreaks during the El-Niño years in 1987, 1991 and 1994, brought fire-related issues to the fore. The Ministry of Forestry upgraded the Section to a Sub Directorate of Forest Fire under the Directorate of Forest Protection in 1994. At the same time, a National Forest Fire Control Centre (Pusdalkarhutnas) was established as an ad-hoc committee within the Ministry. In 2000, the Sub Directorate was upgraded to a Directorate of Forest Fire Control. This reflects the increasing importance of forest and land fire problems in Indonesia, especially after the immense fire outbreaks in 1997/98, and consequently the need of a ‘higher’ management authority with more political power.

<sup>3</sup> The name has since been changed to Nature Protection and Conservation (Perlindungan dan Konservasi Alam / PKA) and then later on to Forest Protection and Nature Conservation (Perlindungan Hutan dan Konservasi Alam/PHKA).

## Organisation structure

The structure of the Fire Section has thus changed several times. The latest structure based on the Forestry Ministerial Decree No. 123/Kpts-II/2001 on Organisation and Work System is shown in Figure 2.

**Figure 2: Organisational structure of fire divisions/sections within the Ministry of Forestry**



## Main functions and tasks

The main tasks of the Directorate of Forest Fire Control are to lead the policy formulation on forest fire management, supervise and co-ordinate its implementation, including technical extension. The Directorate is supported by four Sub-Directorates, each with similar activities but on different focus:

- Sub-Directorate of Fire Control System Development mainly supports the formulation and implementation of policy, standards, norms, guidelines, criteria and procedures, and prepares technical extension and evaluation on the development of the forest fire control system.
- Sub-Directorate of Fire Detection and Evaluation on forest fire detection and evaluation, including monitoring and dissemination of information on hotspots.

- Sub-Directorate of Fire Prevention and Suppression on forest fire prevention and suppression, including planning, procurement and dissemination of fire fighting equipments.
- Sub-Directorate of Fire Impact on forest fire impact, including legal and environmental impacts of fire.

### 3.1.2. National Forest Fire Control Centre (Pusdalkarhutnas)

Although the Fire Section became a Sub Directorate, it was obvious that such a ‘small’ unit was unable to deal with large-scale fires, which needs comprehensive approach and formal inter-section co-ordination within the Ministry and among fire related institutions in the provinces and district across Indonesia. As a result, the Ministry of Forestry established the National Forest Fire Control Centre or Pusdalkarhutnas with the Decree of the Ministry of Forestry No. 195/86. In 1995, the functions and organisational structure of Pusdalkarhutnas were renewed with Decree No. 188 on the Establishment of Pusdalkarhutnas and No. 260 on the Guidance on Forest Fire Prevention and Suppression. In 1998, the functions and organisational structure of Pusdalkarhutnas were renewed with the Decree of the Minister for Forestry No. 97/1998 on Emergency Procedure for Forest Fire Crisis.

#### Organisational structure

Pusdalkarhutnas is an *ad hoc* unit that is active only when necessary, e.g. during fire outbreaks. It is headed by the Director General of Forest Protection and Nature Conservation (Figure 3). To improve co-ordination within the Ministry of Forestry, the Secretary General and all Director Generals of other Directorates within the Ministry, the Board of Directors of parastatal forest companies, and the Association of Indonesian Forest Concession Holder (APHI) are members.

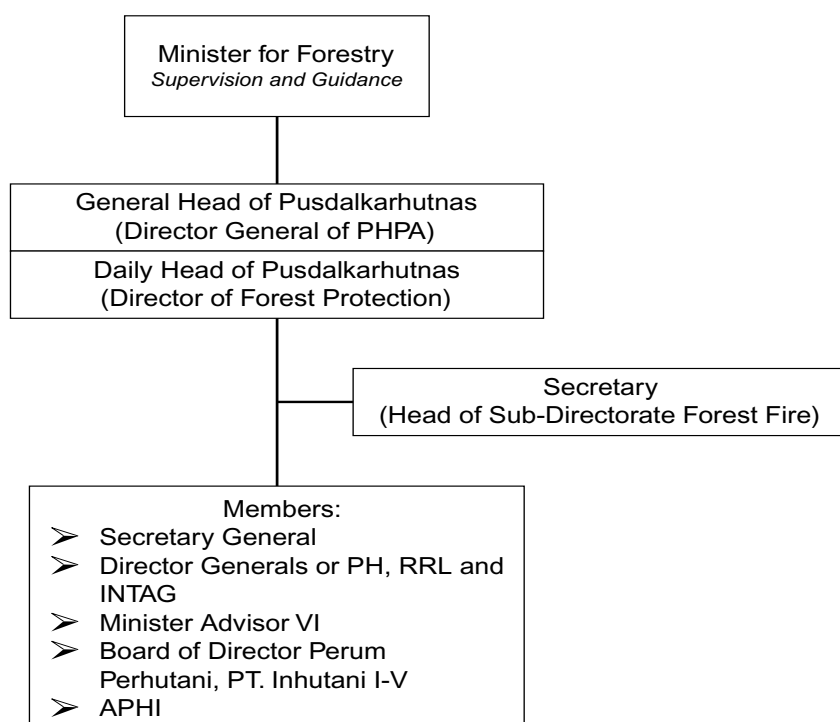
#### Main functions and tasks

The main functions and tasks of the centre are to:

- formulate and direct the operational policy on forest fire prevention and suppression efforts;
- co-ordinate integrated forest fire prevention and suppression at the national level;
- control the implementation of the programme(s) within the framework of operational policy determined by the Minister; and
- plan means and tools needed for forest fire control.

Furthermore, Pusdalkarhutnas is supported by Pusdalkarhutla (Pusat Pengendalian Kebakaran Hutan dan Lahan - Centre of Forest and Land Fire Control) or Pusdalkarhutda (Pusat Pengendalian Kebakaran Hutan Daerah - Regional Centre of Forest and Land Fire Control), Satlakdalkarhutla (Satuan Pelaksana Pengendalian Kebakaran Hutan dan Lahan - Implementation Unit for Forest and Land Fire Control) and Fire Brigades in the implementation of fire suppression and control at the province, district and sub-district levels respectively. These institutions are to be established by Governor Decrees. The co-ordination between Pusdalkarhutnas, Pusdalkarhutda, Satlakdalkarhutla, and Fire Brigades is regulated by Ministry Decree No. 97/Kpts-II/1998 (see 3.2.1).

**Figure 3: Organisational structure of Pusdalkarhutnas**



### 3.1.3. Environmental Impact Management Agency (Bapedal)

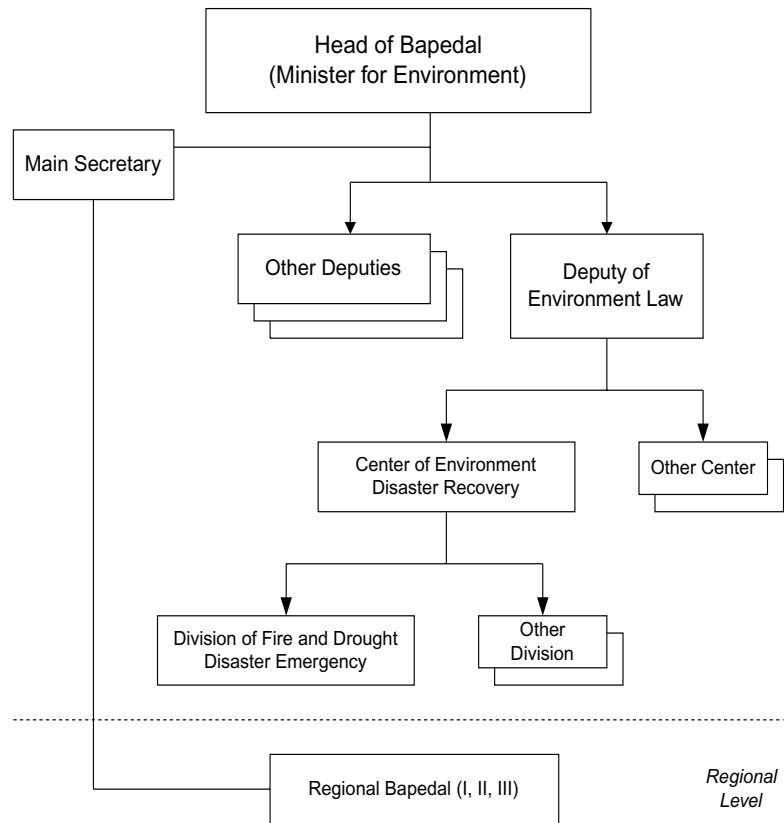
The environment management in Indonesia is the responsibility of the Ministry of Environment. However, as a 'State Ministry' with limited resources, it basically focuses on advising and supporting the President in environmental matters and formulating environmental policy for other government agencies. Increasing environmental problems until late 1980s and consequently the need for more supervision and control in the field have then led the government to issue the Presidential Decree No. 23/1990 to establish Bapedal under the co-ordination of the Ministry of Environment. As a government institution with more resources, better organisation, and importantly authority, Bapedal is expected to conduct cross-sectoral environment management more efficiently and effectively. In implementing its activities, Bapedal is responsible directly to the President.

The Presidential Decree No. 23 was later superseded by the Presidential Decree No. 77/1994, which led to a restructuring of Bapedal's organisation and the development of three regional offices (Bapedal Wilayah [Bapedalwil]). The Decree also allowed Bapedal Daerah (Bapedalda - local offices) to be established in the provinces and districts. This was followed by Decree of the Head of Bapedal No. Kep-135/1995 on Organisation and Work System of Bapedal - later revised with the Decree of the Head of Bapedal No. Kep-25/2001 - and Decree of the Head of Bapedal No. Kep-136/1995 on Organisation and Work System of Regional Bapedal (see Section 3.2.2).

**Organisation structure**

Much as the structure of the Ministry of Forestry, the institutional set-up of Bapedal has changed several times following these revisions. The latest organisational structure of Bapedal in relation to fire issue is based on the Decree of the Head of Bapedal Kep-25/2001 on Organisation and Work System of Bapedal (Figure 4).

**Figure 4: Organisational structure of Bapedal in relation to fire disaster**



**Main functions and tasks**

Since the issuing of the Presidential Decree No. 23/1990, the functions and tasks of Bapedal have been revised through the Presidential Decree No. 77/1994, the Presidential Decree No. 10/2000, and the Presidential Decree No. 166/2000. The latest one mandated Bapedal to assess and formulate national policies to control environmental impact, and to assist and support other governmental agencies in environmental damage prevention, impact management, and improvement of environmental quality. In this context it has to be realised that Bapedal deals only with environmental issues with no special focus on fire management *per se*. It is a non-departmental institution without any authority to sanction or revoke concession licenses of recalcitrant companies. Bapedal can only give recommendations to relevant departments for taking measures against lawbreaker.

Bapedal has no special unit or division to deal with land and fire issues. Of the four Deputies within Bapedal, only the Deputy for Environmental Law Arrangement

can claim some input to the issues. In general, this Deputy assists the Head of Bapedal to formulate policy on law enforcement and assess environment impact and environment management tools, with the support of various centres such as the Centre of Environment Disaster Recovery that co-ordinates the preparedness to emergencies caused by environment disasters. Specifically the centre has to:

- formulate technical policy on the co-ordination and implementation of preparedness and emergency response to environment disaster;
- formulate risk analysis on environment disaster and co-ordinate the procedure of preparedness and emergency response with other related parties;
- plan and co-ordinate the monitoring and detection of the environment disaster potential with other relevant parties;
- plan, implement and maintain the co-ordination of tools/equipment and personnel to be systematically prepared and responsive to environment disaster;
- co-ordinate the evaluation of environment disaster causes and work system of preparedness and emergency response at post-emergency condition to avoid similar disaster in the future;
- co-ordinate training, simulation, personal skill improvement and regular system evaluation and controlling to improve and maintain the work system of preparedness and response to environment disaster; and
- provide services for preparedness and control of emergency conditions.

Separate divisions within the centre manage each type of ‘environment disaster’ that includes forest fire and drought, flood and landslide, and land and sea pollution. The Division of Drought and Fire Disaster Emergency supports the centre in coordinating the preparedness and emergency response to forest and land fires as well as drought.

#### **3.1.4. National Co-ordination Team for Land Fire (TKNKL) and National Coordination Team for Forest and Land Fire Control (TKNPKHL)**

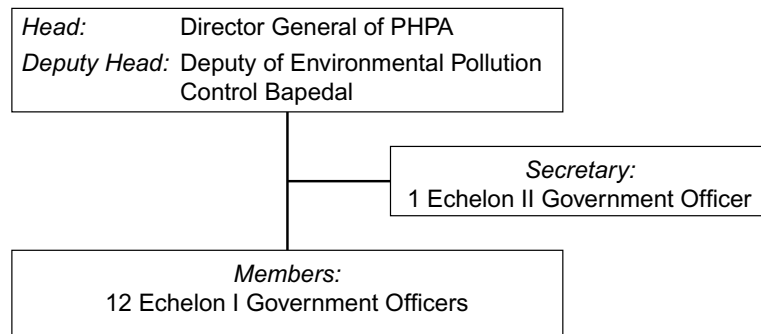
The first Co-ordination Meeting on Environment Management and Sustainable Development, the Co-ordination Meeting between Ekkuwasbang and Indag and the Decree of Coordinating Minister for Industry and Trade No. 335/MK.INDAG/10/1994 all led to Decree No. 18/MenLH/1995, which established the National Co-ordination Team for Land Fire (TKNKL). While Pusdalkarhutnas was set up by the Ministry of Forestry for forest fire management, TKNKL concentrates on the management of land fires (i.e. fires outside state forest area). In implementing its activities, TKNKL was supported by a Secretariat that has been established with the Decree of the Minister for Environment No Kep-07/MenLH/2/1996.

However, the massive fire outbreaks in 1997 indicated that TKNKL was unable to cope with the problems as it was. Following more co-ordination meetings in the offices of Coordinating Minister of People Welfare, of Bakornas PBP, and of Coordinating Minister of Economy, Finance, and Development Control in August and September 1997, the Head of Bapedal (Minister for Environment) issued Decree No. 40/MenLH/1997 to establish the National Co-ordination Team for Forest and Land Fire Control (TKNPKHL).

**Organisational structure**

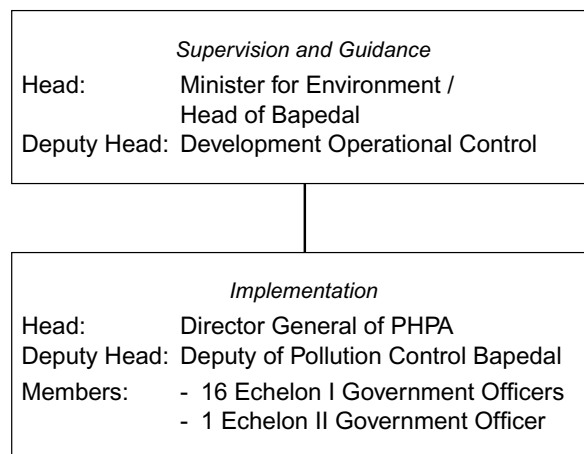
TKNKL and TKNPKHL are non-structural institutions, functioning as and when needed. TKNKL is headed by the Director General of Forest Protection and Nature Conservation of the Ministry of Forestry and has 14 Echelons I (Director General’s level) and 1 Echelon II (Director level) government officers from various ministries and agencies as its members (Figure 5).

**Figure 5: Organisational structure of TKNKL**



Compared to TKNKL, TKNPKHL is politically more powerful and influential, since it is under the leadership of the Minister for Environment. The team members are made up of 16 Echelon I and 1 Echelon II government officers from various ministries and agencies (Figure 6).

**Figure 6: Organisational structure of TKNPKHL**



## Main functions and tasks

Based on the Decree of Minister for Environment No. 18/MenLH/1995 the main functions and tasks of TKNKL lie in:

- formulating national policy on forest fire prevention and suppression;
- co-ordinating operations at the central and regional/local levels; and
- formulating systems for human resource development, control mechanism, information reporting and incentive development.

The functions and tasks of TKNPKHL are similar in some aspects. Based on the Decree of Minister for Environment No. 40/MenLH/1997, TKNPKHL is responsible for the implementation of the two first tasks of TKNKL and additionally for the:

- planning of operational budget; and
- co-ordinating with the Satuan Koordinasi Pelaksana PBP (Satkorlak PBP - Implementation Co-ordination Unit).

### 3.1.5. National Co-ordination Board for Disaster Management and Refugee Control (Bakornas PBP)

The development of the National Co-ordination Board for Disaster Management and Refugee Control's dates back to the early years of Independence with the establishment of Badan Penolong Keluarga Korban Perang (BPKKP - Aid Agency for Families of War Victims) that provided support and relief to families of war victims in Indonesia. During the next decades the institution has changed and developed through several Presidential Decrees to meet the increasing number of national calamities.<sup>4</sup>

## Organisational structure

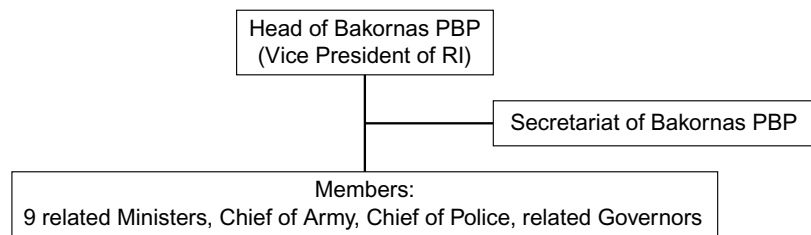
The Board structure has since undergone two more changes ordained by Presidential Decree No. 3/2001 and Presidential Decree No. 111 in November 2001, removing the status of the Minister for Environment and Minister for forestry as permanent members of the Board.

The Vice President of Indonesia is the head of the Board and 9 Ministers, Chiefs of Army and Police, and Governors of the provinces where a disaster has occurred are members of the Board (Figure 7). Other high-ranked government officers can be temporarily involved in the Board when necessary. The Board is directly responsible to the President of Republic.

<sup>4</sup> Presidential Decree No. 26 in 1966 on the development of Badan Pertimbangan Penanggulangan Bencana Alam (BP2BA - Central Agency for Natural Disaster Management) to co-ordinate responses towards disasters such volcano eruptions, earthquake and flood; Cabinet Presidium No. 14/V/KEP/I/1967 on the establishment of Tim Koordinasi Pusat Penanggulangan Bencana Alam (TKP2BA - National Co-ordination Team for Natural Disaster Management); Presidential Decree No. 28 in 1979 on the development of Badan Koordinasi Nasional Penanggulangan Bencana Alam (Bakornas PBA - National Coordinating Board for Natural Disaster Management). The latest agency was the embryo for Bakornas PB (National Coordinating Board for Disaster Management), which was established in 1990 through Presidential Decree No. 43 mainly to address the increase in train and ship accidents. With Presidential Decree No.106 in 1999, Bakornas PB was again restructured to cope with the refugee problem as a result of many social and ethnic conflicts in the 1990s across Indonesia to the current Bakornas PBP.

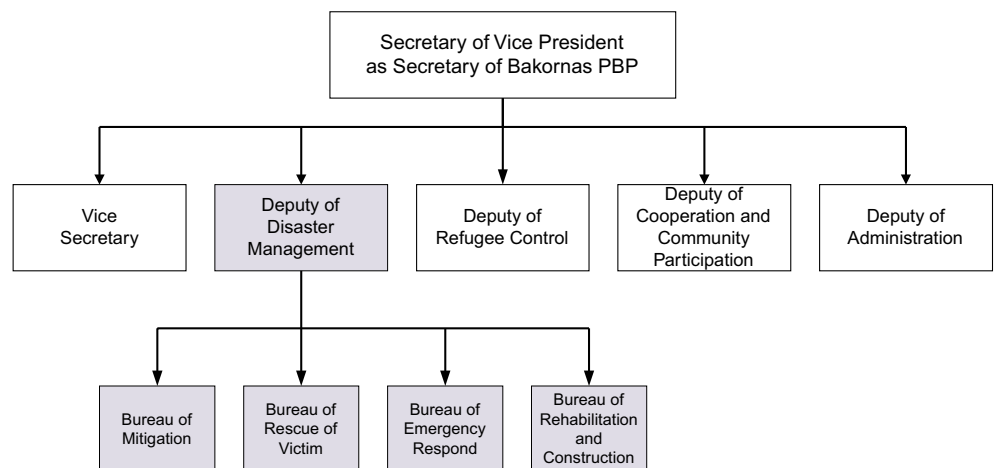


**Figure 7: Organisational structure of Bakornas PBP**



Bakornas PBP is a non-structural co-ordination board and functions only when multi-sectoral action is needed during a disaster. The Secretariat of Bakornas PBP (Figure 8) handles the administration.

**Figure 8: Organisational structure of Secretariat of Bakornas PBP**



**Main functions and tasks of Bakornas PBP**

The Board is responsible for disaster management and refugee control. Based on Presidential Decree No. 3/2001 Bakornas PBP has three main functions as follows:

- formulate and determine policy on disaster management and refugee control efficiently, effectively and speedily;
- coordinating the execution of disaster management and refugee control in an integrated way; and
- provide guidelines and directions on disaster management and refugee control which includes prevention, rescue, rehabilitation and reconstruction.

More specifically, as regulated by the Decree of Secretary of Bakornas PBP No. 2/2001, Bakornas PBP has to:

- co-ordinate planning, supervision, control, monitoring, and evaluation of disaster management and refugee control;
- determine programmes and guidelines on the implementation of disaster management and refugee control in an integrated and co-ordinated way;
- co-ordinate collaboration between government and private sector institutions locally and internationally to control disaster and manage refugees;
- compile reports on the effort of disaster management and refugee control nationally and report to the President;
- co-ordinate the distribution of aid materials from local and international communities to victims of a disaster;
- mobilise its members for implementation in the field, including self-conducted efforts/activities by communities; and
- carry out other task as mandated by the President.

#### **Main functions and tasks of the Secretariat of Bakornas PBP**

To support the Board and operate fire disaster management activities, the Deputy of Disaster Management within the Secretariat has to:

- prepare plans for disaster management; and
- synchronise and prepare guidelines, standards and procedures for disaster mitigation, rescue of the victims, disaster response, rehabilitation and reconstruction.

The Deputy is supported by four Bureaus and their sub-units with specific tasks:

- Bureau of Mitigation;
- Bureau of Rescue of the Victims;
- Bureau of Emergency Response; and
- Bureau of Rehabilitation and Reconstruction.

Furthermore, based on Decree of the Secretary of Bakornas PBP No. 2 in 2001, Satkorlak PBP (in the province), Satlak PBP (in the district) and Satuan Tugas PBP (Satgas - Task Force PBP) are to implement programmes and activities on disaster management and refugee control (see Section 3.2.3).

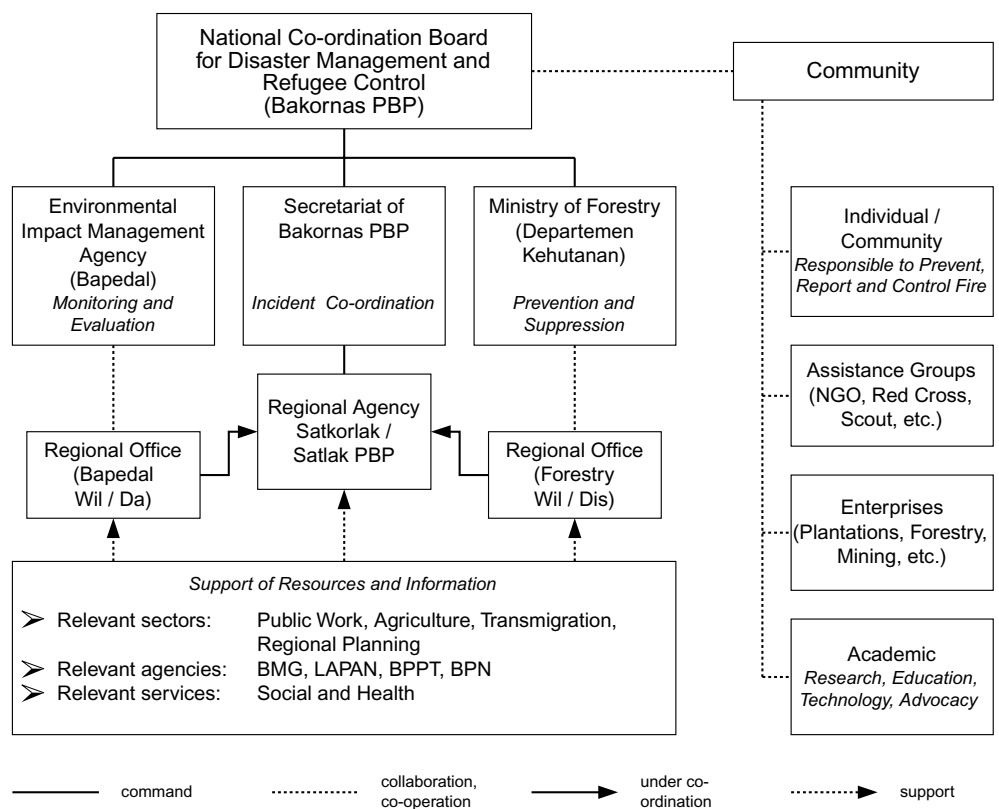
#### **3.1.6. Command and co-ordination linkages**

Until now confusion about the linkages among, and the roles and responsibilities of, the various national governmental bodies still abounds mainly because of their:

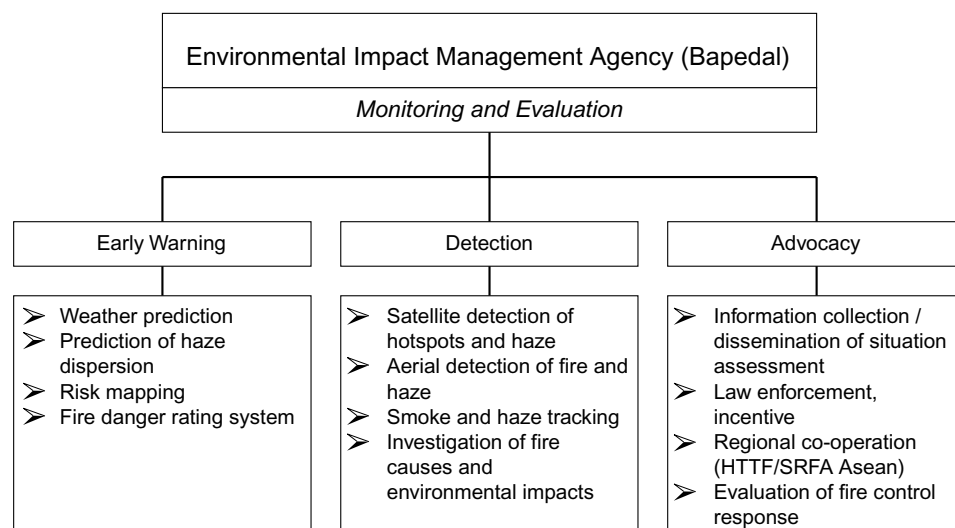
- different perceptions and interests about fire management;
- persistent sectoral approach in their activities; and
- lack of communication and co-ordination, especially in developing their organisational structure and defining of their tasks, functions, and responsibilities.

The Secretariat of Bakornas PBP published a booklet, which contains a description of the linkages among and the roles and responsibilities of Bapedal, Bakornas PBP and the Ministry of Forestry (Secretariat of Bakornas PBP, 2000). This is accepted as the ‘co-ordination or structure guideline’ by all involved parties and followed in the programmes and activities on forest and land fire management in Indonesia (Figure 9). Accordingly, Bapedal is responsible for monitoring and evaluation of disaster, the Ministry of Forestry for forest fire control operation, including prevention and suppression, and the Secretariat of Bakornas PBP for co-ordination. The roles and responsibilities of each of these agencies are shown in Figures 10, 11, and 12.

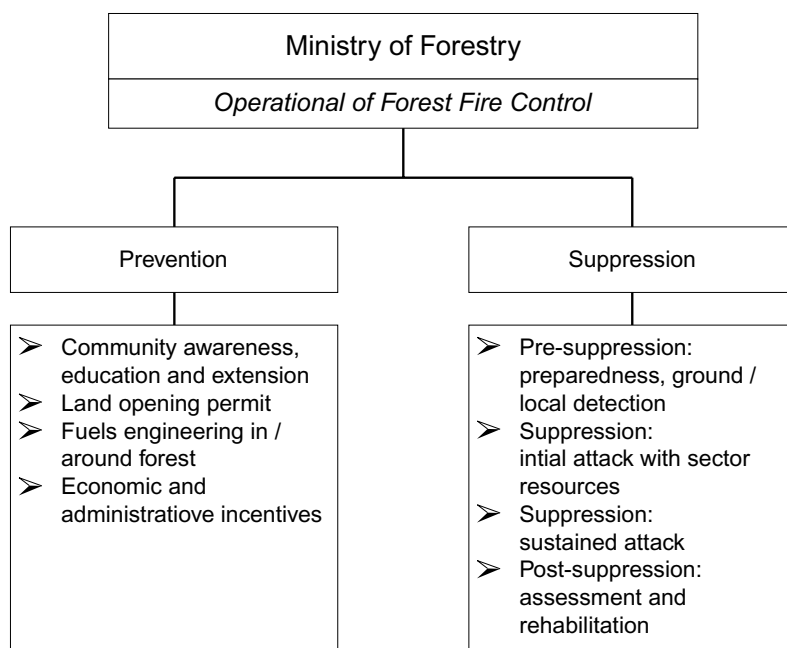
**Figure 9: Roles and responsibilities for forest and land fire management according to the Secretariat of Bakornas PBP**



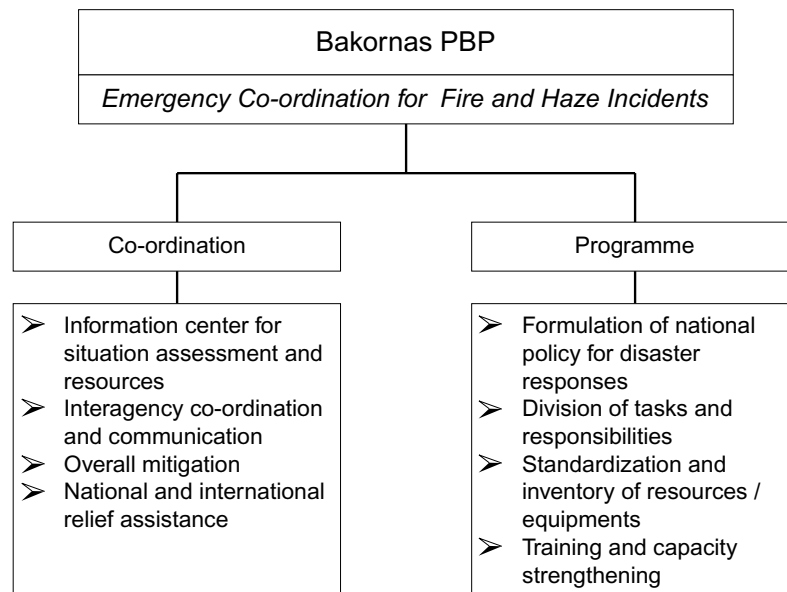
**Figure 10: Roles and responsibility of Bapedal**



**Figure 11: Roles and responsibilities of the Ministry of Forestry**



**Figure 12: Roles and responsibilities of Bakornas PBP**



### 3.2. Organisations in the provinces and districts

Governmental agencies, structural and non structural, in the provinces and districts that deal with forest and land fire issues can be classified into two groups:

- agencies directly under the command of central government; and
- those directly under the regional government (provincial and district).

Before decentralisation, most agencies fell under the first group. However, now almost all are under the command of regional governments with some exceptions. Table 3 shows the most relevant agencies at various levels involved in fire management activities.

**Table 3: Important agencies/institutions involved in the forest and land fire management at national, provincial, and district levels**

Level	Agencies					
	Forestry		Environment		Disaster/ incident	Others
National	Ministry of Forestry	Pusdalkarhutnas	Bapedal	TKNPKHL	Bakornas PBP	Other related institution (Ministry of Agriculture, Search and Rescue Agency, Police, Military, Transmigration, BMG**, LAPAN***, BPPT+, etc.)
Province	Provincial Forestry Service and UPT* of the Ministry	Pusdalkarhutla	Regional and Provincial Bapedal		Satkorlak PBP	
District	District Forestry Service	Poskolakdal-karhutla		Satlak PBP		
		Satlakdal-karhutla			Satgas PBP	

\* UPT = Unit Pelaksana Teknis (Technical Executing Unit)

\*\* BMG = Badan Meteorologi dan Geofisika (Meteorology and Geophysical Agency)

\*\*\* LAPAN = Lembaga Penerbangan dan Antariksa Nasional (National Institute of Aeronautic and Space)

+ BPPT = Badan Pengkajian dan Penerapan Teknologi (Assessment and Application of Technology Agency)

### 3.2.1. Forestry sector

Before the issuing of the Act No.22/1999 on Local Government and Government Regulation No. 25/2000 on Government Authority and Province Authority as Autonomous Region, forest management policies were basically set by the central government in Jakarta. Even the provincial and district forestry offices and agencies are under the direction of the Ministry of Forestry when implementing the programmes. Authority in the forestry sector now lies mostly with the Governor at the provincial level and the Bupati (Head of District) at the district level. Consequently, almost all forestry offices and agencies in the provinces and districts were reorganised and structurally are under their direct commands accordingly.

However, as regulated in Article 7 of Act No. 22/1999 and Article 2 of Government Regulation 25/2000, conservation issues are still under the authority of the central government because of their strategic value and cross-area/region characteristics. Thus, the Ministry of Forestry still formulates policy on and maintains control over management of national parks and other forest conservation areas. Certain Unit Pelaksana Teknis (UPT - Technical Executing Unit), such as National Park Offices and the Agency for Natural Resource Conservation, that implement the programmes are directly under the command of the Directorate General of Perlindungan Hutan dan Konservasi Alam (PHKA - Forest Protection and Nature Conservation), Ministry of Forestry.

Another provincial institution directly involved in forest fire management activities is Pusdalkarhutla (Provincial Forest and Land Fire Control Centre), which is established and controlled by the Governor.

### **Provincial and District Forestry Service (Dinas Kehutanan Propinsi dan Dinas Kehutanan Kabupaten/Kota)**

Forestry Services at the province and district levels share the same functions to:

- formulate technical policy;
- conduct technical assistance;
- issue licenses; and
- provide public services on forestry matters.

In practice, the Provincial Forestry Service has greater administrative and co-ordination role for forest management activities in a province, particularly cross- and inter-district activities, while the District Forestry Service is the highest authority for all management activities of state forest within its administrative areas. This covers also protection and security of state forest areas, including prevention, mitigation, suppression and control of forest fire.

The organisational structures of Provincial and District Forestry Services vary depending on local conditions and needs. Moreover, forestry services may be absent in provinces and districts without any forest area, or be combined with other sectors, e.g. Forestry and Plantation Service (Dinas Kehutanan dan Perkebunan).

### **Technical Executing Unit of Directorate General of PHKA**

#### ***National Park Office (Kantor Taman Nasional)***

Based on the Forestry Ministerial Decree No. 185/Kpts-II/97, the National Park Office is responsible for the management of national parks focusing on natural resource and ecosystem conservation. This covers also protection and security of national parks, including prevention, mitigation, suppression, and control of forest fire.

#### ***Agency for Natural Resource Conservation (Balai Konservasi Sumberdaya Alam - BKSDA)***

Based on the Forestry Ministerial Decree No. 204/Kpts-II/97, the Agency for Natural Resource Conservation is to manage conservation areas such as Nature Sanctuary, Natural Ecotourism Park, Forest Park, and Hunting Park and to conserve plants and animals within and outside of those areas in accordance with prevailing regulations. This also includes protection and security of forest conservation areas, including prevention, mitigation, suppression, and control of forest fire.

#### ***Pusdalkarhutla (Provincial Centre of Forest and Land Fire Control)***

The Pusdalkarhutla is a non-structural organisation or forum consisting of representatives of provincial governmental agencies/institutions that deal directly or indirectly with fire issues in the province. The development of this centre started with the issuing of the Decree of the Minister for Forestry No. 195 in 1986. This decree regulated that fire-prone provinces have to establish a Centre of Forest Fire Control (Pusdalkarhut/ Pusat Pengendalian Kebakaran Hutan) through a Governor Decree or Provincial Regulation. The Governor is the General Head of the centre, while the Head of the Regional Forestry Office is the Vice General Head, the Head of Provincial Forestry Service is the Daily Head with representatives of relevant agencies/institutions as

members of the centre. Its main function is to co-ordinate the roles, responsibilities and activities of the members in fire suppression and control.

In turn, the Pusdalkarhut is supported by Pos Komando Pelaksanaan Pengendalian Kebakaran Hutan (Poskolakdalkarhut - Command Post for Forest Fire Control Implementation) at the Kesatuan Pengusahaan Hutan (KPH - Forest Management Unit) level and Satlakdalkarhut at the Bagian Kesatuan Pengusahaan Hutan (BKPH - Forest Management Sub-Unit) or Resor Pengusahaan Hutan (RPH - Forest Management Resort) level.<sup>5</sup> While Poskolakdalkarhut is responsible to Pusdalkarhut, Satlakdalkarhut is to Poskolakdalkarhut (Figure 13). The main functions and tasks of these institutions are:

#### Pusdalkarhut

- Co-ordinate with Satkorlak PBP in respective region/province; and
- Determine policy and actions to be taken regarding forest and land fire control operation.

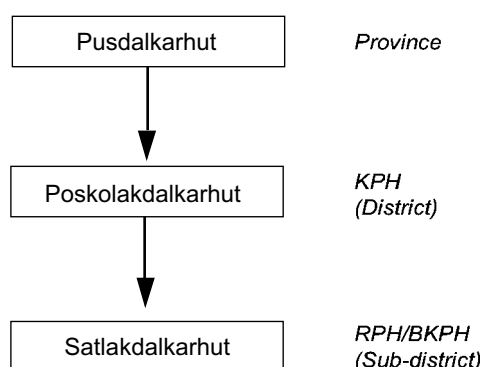
#### Poskolakdalkarhut

- Prepare operational action plan;
- Conduct horizontal and vertical co-ordination;
- Hold operational command in the field; and
- Provide report on operational actions taken.

#### Satlakdalkarhut

- Carry out forest fire control/suppression operations;
- Provide report on operation to Poskolakdalkarhut; and
- Mobilise community (as volunteer) in forest fire control operation.

**Figure 13: Vertical relationships among Pusdalkarhut, Poskolakdalkarhut and Satlakdalkarhut based on Forestry Ministerial Decree No. 195/1986**



<sup>5</sup> Under Indonesian forest management system, a state forest area in a province is divided into several KPH, where each one usually covers the state forest area within a district. Furthermore, this unit is divided into BKPH or RPH with each one usually covering the state forest area within a sub-district.



Following the Decree of the Minister for Forestry No. 195/86 some provinces have developed Puskardarhut, Poskolakdarhut and Satlakdarhut, e.g. Jambi as regulated in Provincial Regulation No. 6/1988 concerning Efforts of Forest Fire Prevention and Suppression.

In 1995, the structure above has been changed with the issuing of Decree of the Minister for Forestry No. 188/1995 on the Establishment of Puskardarhutnas and No. 260/1995 on the Guidance on Forest Fire Prevention and Suppression Effort, which was later revised by the Decree of the Minister for Forestry and No. 97/1998 on Emergency Procedure for Forest Fire Crisis. The decrees stipulate that under the direction of Puskardarhutnas the Governor has to establish Pusat Pengendalian Kebakaran Hutan dan Lahan (Puskardarhutla - Centre of Forest and Land Fire Control) in the province, which is supported by Satlakdarhutla at district level and Fire Brigades. Compared to former organisational structure and function, the newer Puskardarhutla and Satlakdarhutla have extended functions and tasks, since they also have to cover fire management activities outside state forest area. Furthermore, in implementing their activities the centres also have to coordinate with Puskardarhutnas at national level.

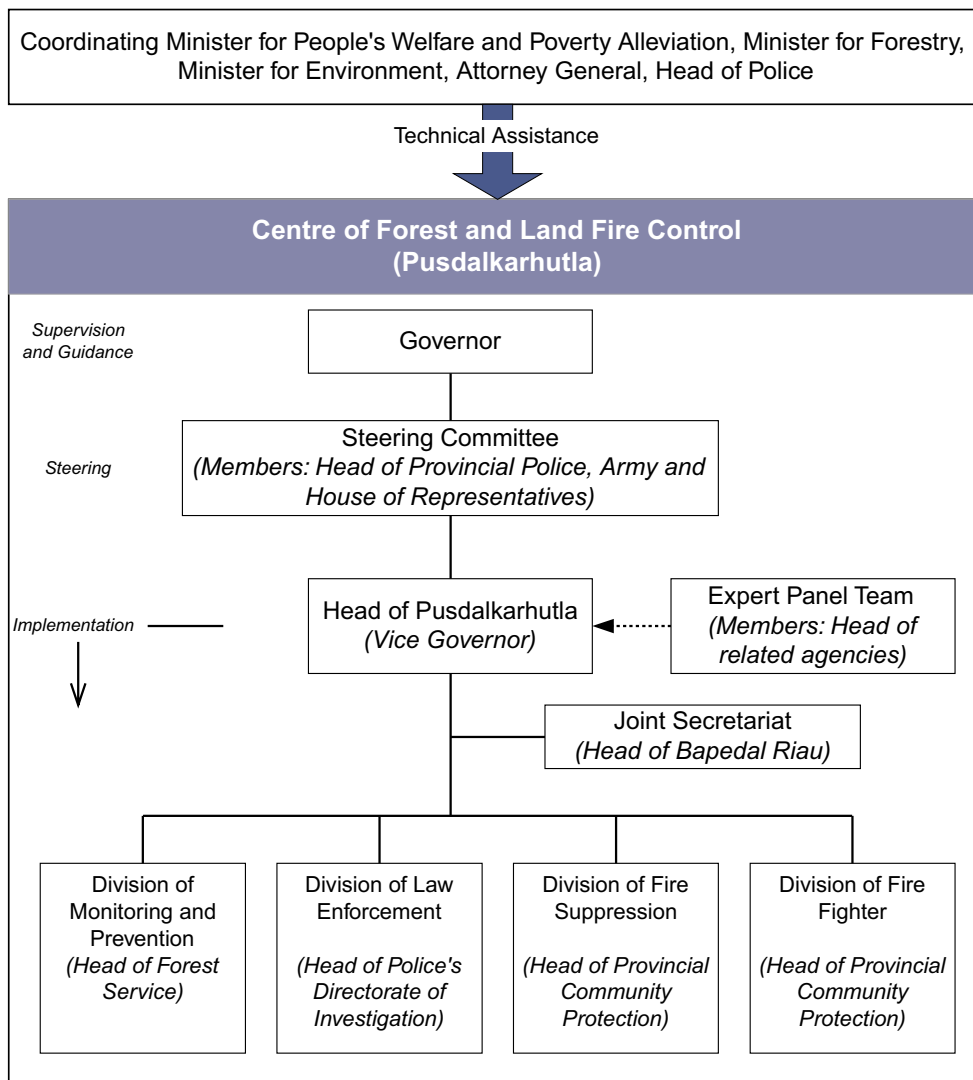
While some provinces still keep the ‘traditional’ organisational structure, others have adopted the updated version, which vary according to local conditions and the local government’s prerogative. Some of them have clear structure and detailed roles and responsibilities of involved agencies (see Figure 14 for an example Riau Province), others have less developed structure (Figure 15 for an example West Java).

Furthermore, Article 5 of the Decree of Ministry of Forestry No. 97 regulated that each of the Puskardarhutla and Satlak has to establish Posko (Pos Komando - Command Post) to control, monitor, and disseminate information and report fire occurrences and management activities.

### 3.2.2. Environmental Sector

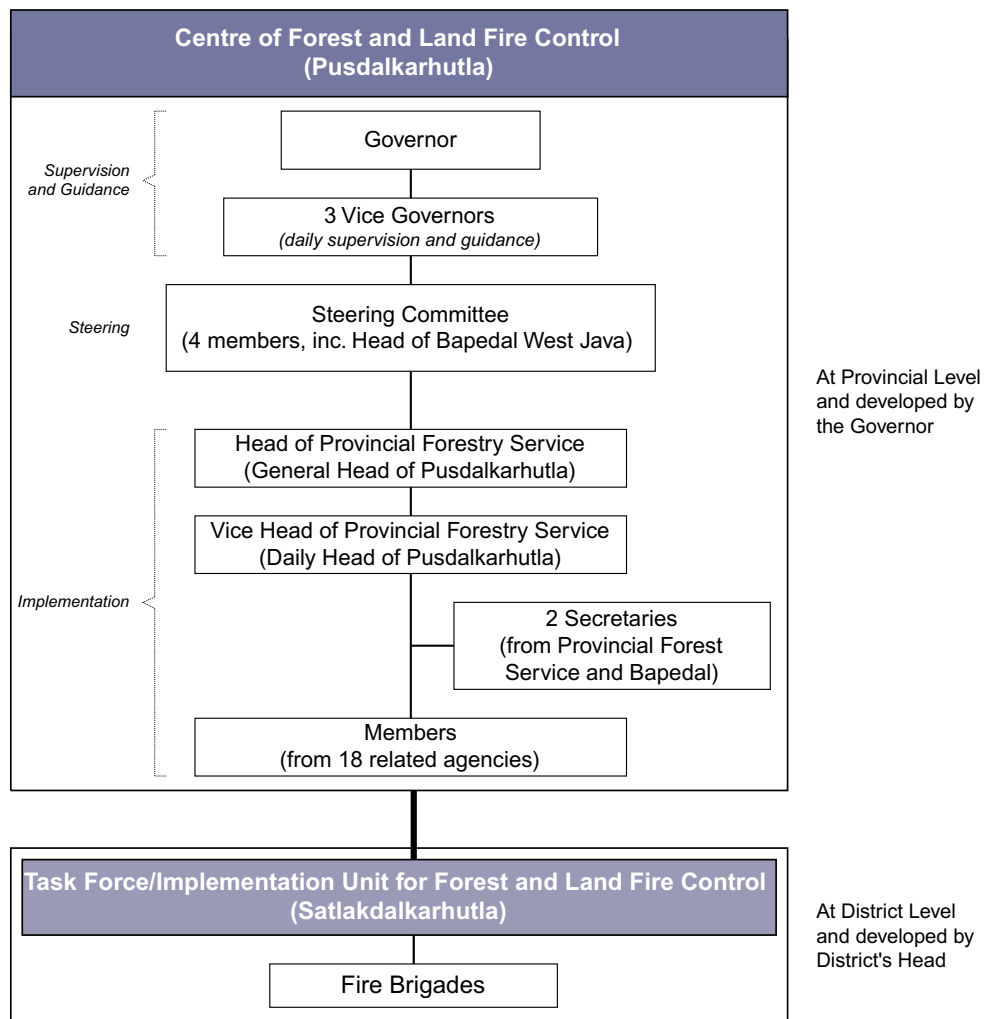
In the environmental sector, only the Regional and Local Offices of Bapedal (Bapedalwil and Bapedalda) are involved in the forest and land fire management activities in the provinces and districts. The establishment and functions of both these Bapedal offices are different. The three Regional Bapedal Offices, which cover all the Indonesian provinces, were based on Presidential Decree No. 77/1994 and thus are directly under the command of the national Bapedal in Jakarta. The Bapedal Daerah Propinsi (Provincial Bapedal Offices) was established by, and thus responsible to, the Governor as the head of a province and the Bapedal Daerah Kabupaten/Kota (District Bapedal Offices) to the Bupati.

Figure 14: Structure of Pusdalkarhutla in Riau Province<sup>6</sup>



<sup>6</sup> Based on Decree of Riau Governor No. Kpts 25/V/2000 issued in May, 2000.

Figure 15: Structure of Pusdalkarhutla in West Java Province<sup>7</sup>



<sup>7</sup> Based on Decree of West Java Governor No. 367/Kep.1163-Binprod/2001 on November 8, 2001.

The function of the Regional Bapedal is regulated in the Decree of Bapedal’s Head No. Kep-136/1995, which is to provide technical guidance and laboratory services (such as sample analysis) in environmental impact control to local governments in their respective administrative areas. The Regional Bapedal are the ‘prolonged arm’ of the central government and basically provides ‘only’ administrative and technical support to the local government. On the other hand, the implementation of environmental impact control programmes/activities in each province or kabupaten, which covers environmental risk analysis, monitoring, detection and evaluation of environmental disaster potential, training and human resource development on environmental issues, are the responsibility of the Bapedal Daerah Propinsi or Kabupaten/Kota. There is no consistent organisational structure for Regional and Local Bapedal Offices; differences are often due to diverse local conditions and needs.

### 3.2.3. Disaster management sector

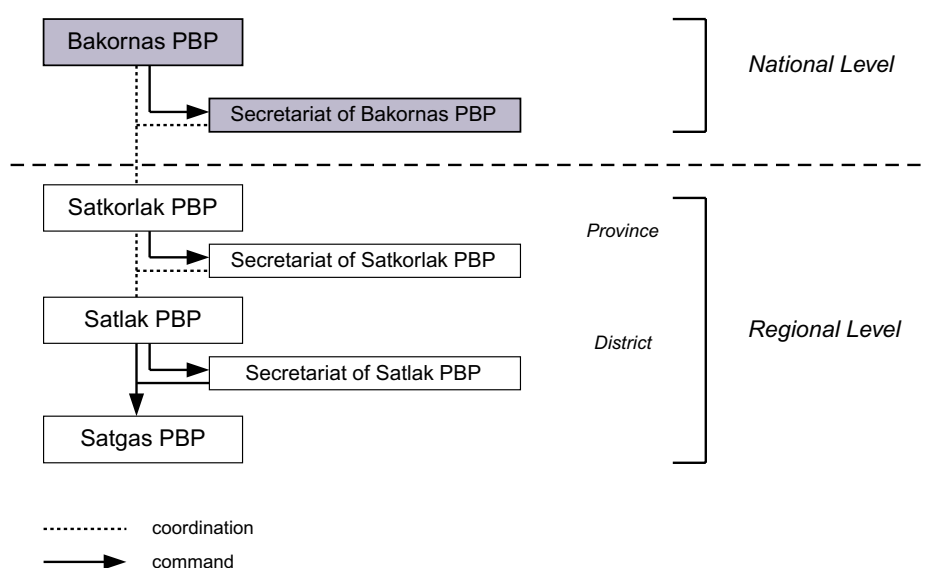
Under the co-ordination of Bakornas PBP and its Secretariat at the national level, several institutions in the provinces and districts are responsible for the implementation of disaster management and refugee control activities/efforts. Based on the Decree of the Secretary of Bakornas PBP No. 2 in 2001, a province has to develop a Satkorlak PBP, and a district a Satlak PBP, including the Satgas PBP.

#### Organisational structure

The Satkorlak PBP and Satlak PBP are non-structural co-ordination ‘forums’ in the province and district respectively. While Satkorlak PBP is directly responsible to the Governor, Satlak PBP is responsible to the Bupati. Both forums function as and when a disaster requires cross-sectoral actions.

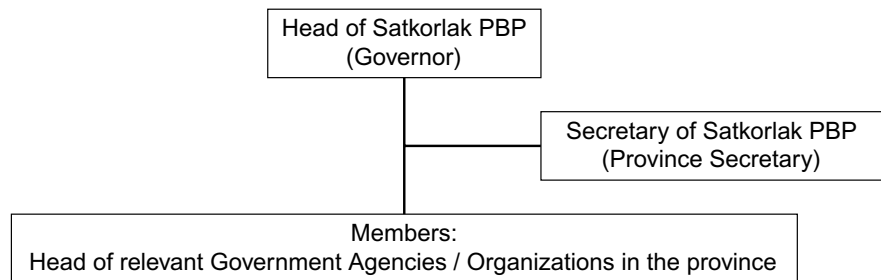
Each forum is supported by a Secretariat. Field operational activities related to disaster management and refugee control are conducted by Satgas PBP under the Head of Satlak PBP. The connections and relationships between the institutions described above are shown in Figure 16.

**Figure 16: Structure of disaster management agencies/institutions**

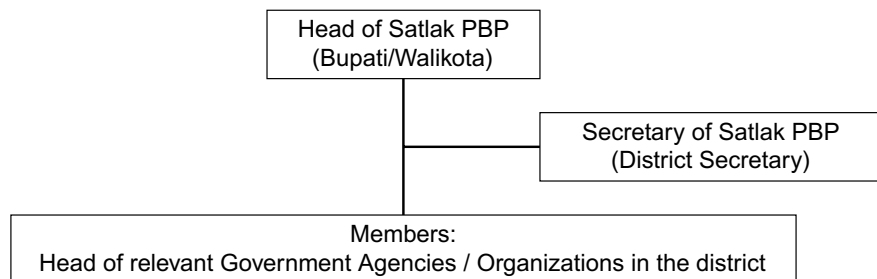


The organisational structure and work procedure of Satkorlak PBP and its Secretariat in the provinces are different from each other because it depends solely on the decision of the Governor as the Head of Satkorlak PBP. This applies also to Satlak PBP and its Secretariat in the districts, which heads the Bupati as the Head of Satlak PBP. Generally, the structure for Satkorlak PBP is set up as shown in Figure 17, and for Satlak PBP in Figure 18.

**Figure 17: Structure of Satkorlak PBP**



**Figure 18: Structure of Satlak PBP**



## Main functions and tasks

### *Satkorlak PBP*

The main task of Satkorlak PBP is to co-ordinate activities and efforts on disaster management and refugee control in a province within the framework determined by Bakornas PBP. It covers prevention, disaster response, rehabilitation, reconstruction and rescue, resource development, reconciliation and refugee allocation after the Governor has declared a ‘state of disaster’ in a province. Furthermore it has to:

- Prepare guidelines for disaster management and refugee control;
- Co-ordinate disaster management and refugee control activities conducted by institutions, agencies, organisations in the province and co-ordinate with Satkorlak PBP from adjacent provinces;
- Report the disaster to Bakornas PBP and provide the information to related agencies;
- Monitor the implementation of disaster management and refugee control activities; and

- Report the result of disaster management and refugee control activities to Bakornas PBP.

### **Satlak PBP**

The function and tasks of a Satlak PBP in a district is basically the same as those of Satkorlak PBP in a province. The differences are only that Satlak PBP has to coordinate with Satlak PBP from adjacent districts and report the disaster to Satkorlak PBP and Bakornas PBP, including the result of measures taken.

### **Satgas PBP**

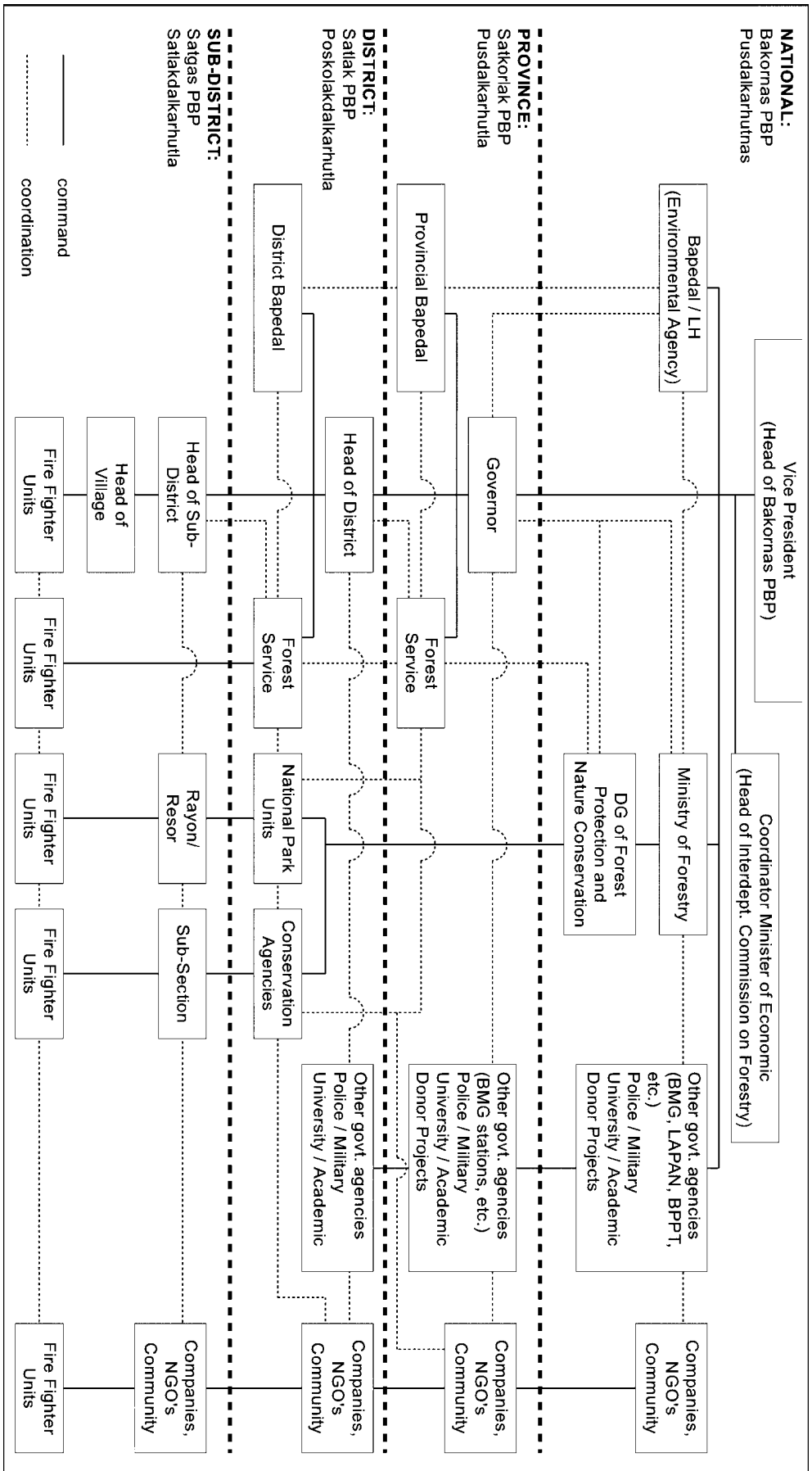
The ‘real’ operational fieldwork related to disaster management and refugee control such as fire fighting, victims rescue, etc., are conducted by these Task Forces, which are set-up by and therefore under the direct command of Bupati as the Head of Satlak PBP.

### **3.2.4. Other agencies**

Besides the institutions/agencies from forestry, environmental and disaster management sectors described, many other parties are directly or indirectly involved in the management of forest and land fires in Indonesia. They include the Ministry of Agriculture, Public Works, Transmigration, Search and Rescue Agency, Military, Police, etc. Since they are not the ‘main-players’ in fire management, their roles and functions will not be described in further details in this review. However, it is important to note that some of these institutions (e.g. Agriculture, Transmigration, Public Works) are now under the command of the provincial Governor or the Bupati as provincial/district services or Technical Implementation Units, but others are still controlled from Jakarta such as the Military and Police.

Figure 19 displays the linkages among the most important institutions/agencies at various levels that are involved in the management of forest and land fire issues in Indonesia.

Figure 19: Organisational structure of forest and land fire management



## 4. Discussion

Theoretically, Indonesia does not lack the legal and institutional tools to regulate and manage forest and land fires. Significant numbers of relevant laws and regulations have been issued to cover the authority, directions, responsibilities, obligations and technical aspects. The Indonesian government has also developed multi-sectoral organisational structures at various levels to supervise and control the implementation of those laws and regulations.

However, experiences in the last two decades, when forest and land fires occurred continuously with alarming intensity and scale, have shown that the developed institutional, legal and regulatory frameworks have not functioned effectively for various reasons. This section will examine the weaknesses and constraints of the regulations and agencies, emphasising basic elements such as consistency, harmonisation, clarity and enforceability.

### 4.1. Weaknesses and constraints

#### 4.1.1. Sectoral approaches

There is no systematic, comprehensive and integrated forest and land fire management strategy in Indonesia. Inconsistencies and rapid changes on regulatory framework on forest and land fire management indicate response-driven management style. Moreover, most of the regulations and institutions reflect a *sectoral approach* in managing forest and land fires. It has to be underlined that forest and land fires are a multi-dimensional problem, which needs a multi- and cross-sectoral co-ordination among all involved parties. Until now, the strategy and programs of each agency/institution tends to be focused on its own sector. For example, forestry agencies attend to technical forest fire aspects particularly in the state forest area, environmental agencies tackle environmental impacts of fires particularly outside state forest area and disaster management agencies get involved only when the fire leads to a disaster. The efforts to integrate the different sectors under one command, e.g. Bakornas PBP, or different task-forces/forums (Pusdalkarhutnas, TKNPKL, etc.), failed to create a more comprehensive programme due to lack of co-ordination, ego-sectoral interest and very rigid budgeting system of the involved parties. Additionally, the ‘co-ordination’ forums are *ad hoc*, convening only when the situation is getting out of control. This does not facilitate the development of a long-term strategy and plan for forest and land fire management.

It is also obvious that fire management in Indonesia is *more focused on suppression than prevention*. Even though existing regulations and institutions give the impression that prevention is as important as suppression, facts show that it is not:

- most agencies/institutions at all levels act only when there is a fire outbreak that needs to be suppressed and not earlier;



- most agencies/institutions emphasise suppression than prevention in their (short-term) programmes and activities; and
- commitment and willingness to allocate available resources (staff, finance, technology, equipment, etc.) for prevention is less available than for suppression of forest and land fires.

The organisational structure of some agencies involved in land and fire management also shows the emphasis on suppression rather than prevention. Within Bapedal, for example, the section responsible for fire issues is the *Division of Drought and Fire Disaster Emergency* under the Centre of Environment Disaster Recovery (see Section 3.1.3). This indicates that the agency is more reactive than proactive, dealing with fire issues when they will, or already have, become a disaster.

This situation is not unique only within governmental agencies, but is common in various forest fire management projects/programmes, national initiatives and international assistance (both long- and short-term) and in the private sector across Indonesia. Nevertheless, the repeated failures and ineffectiveness of suppression efforts in Indonesia, and the experiences in other more developed countries (e.g. USA in 2000 and Australia in 2001), have led some people to see that prevention is at least as important as suppression. In fact, governmental agencies/institutions have planned more fire prevention efforts in the last years, particularly with stronger involvement of local communities. However, field investigation has shown that governmental agencies still look at the community as an object rather than as a partner. They tend to ‘give-over’ the responsibility for fire prevention to the local communities without providing them the necessary support. This is partly caused by the agencies’ limited capacity, knowledge and experience.

#### 4.1.2. Unsynchronised and inconsistent policies

Forest and land fires are greatly dependent on the policies of various sectors, particularly on land and natural resource (forest) management activities. In many cases, ***forest and land fire policies do not complement policies on other sectors, and vice versa***. One example is the policy on forest conversion for Hutan Tanaman Industri (HTI - industrial timber plantation) development, which since the middle of 1980s has led to large-scale opening of forest areas. These are very susceptible to fire. The World Bank (2001) reports that 34% of the 1997/98 fires were caused by large-scale land conversion. Any effort to manage forest and land fires in Indonesia, including regulatory and institutional developments, will not be effective as long as there is no change in land conversion policy.

Another example is the involvement of local community, which in the last years has become more critical due to the government’s limited capacity in managing forest and land fires. The local communities have been urged in many laws and regulations to be more active and to engage in fire management activities, particularly for prevention and suppression. However, Indonesia’s land-use and forest policies are still not designed to favour local community involvement. Many communities have existed for decades before the Indonesia government decided to declare their land as ‘state forest areas’. The villagers’ traditional access to the forest resources is denied, and in many cases whole communities were relocated to make way for HTI development or logging activities. Under such circumstances, poor local support and participation to protect the forest from fire is understandable.

### 4.1.3. Non-transparent and uncoordinated procedures and mechanisms

There are numerous regulations on forest and land fires, and their development is *often not transparent or made known to relevant stakeholders* because different authorities at different levels rarely consult or co-ordinate with each other. Collected and documented separately by different institutions, the regulations are *poorly socialised and disseminated*, and thus remain unfamiliar to other stakeholders. The investigations showed that not many government officers know or understand that Environmental Act No. 23/1997, for example, could be used to punish fire offender, such as in the trial in Riau (see Box 2).

Furthermore, the regulations and institutions are often developed *without checking and considering existing ones*, even within the same institution, as illustrated by one example from Bapedal. With the Decree of Minister for Environment/Head of Bapedal No. 18 in 1995, Bapedal established the TKNKL with many senior government officials as members (see Figure 5). In 1997, this forum was restructured to become the TKNPKHL by Decree of Minister for Environment/Head of Bapedal No. 40, with some changes to memberships (see Figure 6). However, the latter decree does not revoke or supersede the former one. From the legal point of view, TKNKL still exists alongside TKNPKHL, creating a situation where two forums are now responsible for co-ordination of fire control with different heads and members.

Another example is the establishment of Pusdalkarhutla in East Kalimantan with Governor Decree No. 19 in 1995 and Tim Koordinasi Penanggulangan Kebakaran Hutan dan Lahan (TKPKHL - Provincial Co-ordination Team for Forest and Land Fire Control) with Governor Decree No. 660 in 1998. Both organisations basically have the same tasks, functions and structures, with only one important difference in TKPKHL having the provincial Bapedal as a member, while Pusdalkarhutla does not. Likewise, the Decree No. 660 does not revoke or supersede Decree No. 19.

### 4.1.4. Unclear regulations

Many of the regulations are *unclear and difficult to understand*, partly because of terminology problems but mainly due to stakeholders' conflicts of interests and unwillingness to compromise. This allows for differing interpretations to add to the confusion, particularly over authority, responsibility and roles.

The booklet, "Leading sectors for forest fires management" (Secretariat of Bakornas PBP, 2000), for instance, has defined Bapedal's responsibilities to be monitoring and evaluation, and the Ministry of Forestry's to be prevention and suppression of forest and land fires (see Section 3.1.5). In contrast, Bapedal has established TKNKL and TKNPKHL to be forums for *only* land fire management, but included prevention and suppression, while the Ministry of Forestry developed Pusdalkarhutnas to co-ordinate *only* forest fire management (see Section 3.1.2). Such inconsistencies and overlapping of responsibilities are also common among lower-level agencies, e.g. in East Kalimantan among Provincial Forestry Service, Pusdalkarhutla, Bapedal Wilayah/Daerah and TKPKHL, and at the district level among forestry and environmental district offices.

All these problems consequently caused conflicts and overlap in the implementation of forest and land fire management policy. A case in point is the suppression of fires in agriculture plantation areas, the biggest fire problem in Indonesia in recent years. According to the Secretariat of Bakornas PBP, the Ministry of Forestry

is responsible for the suppression of *forest and land fires*, including fires *within and outside state forest area*. On the other hand, the Forestry Law is interpreted to mean that the Ministry of Forestry is responsible for all *forestry activities within* the state forest area, but not in plantations, transmigration areas or mines, which are adjacent or within state forest areas in many cases. The Directorate of Forest Fire and Puskarhutnas also delineated a focus on the management of only forest fires. Therefore, the Ministry of Forestry is reluctant to take action against fires in plantation areas, while other agencies do not think they are responsible either.

Similar problem is also expected after the decentralisation of authority from the central to provincial and district governments. Currently, the management of all state forest areas is under provincial and district authorities, except for national parks and conservation areas that are still under the Ministry of Forestry through its provincial Technical Implementation Units (National Park Offices and BKSDA). If a fire straddles the boundary of a national park or a conservation area, the question will be whether the Ministry of Forestry or the Provincial/District government has the ultimate authority to deal with it.

#### 4.1.5. Uncoordinated programmes and activities

The complicated structural relationships among too many agencies (see Figure 19) produce a *bureaucratic planning and implementing process*, besides adding to the confusion and conflicts as discussed above. Therefore, it is very important that the agencies responsible for certain aspects of fire management have enough authority to conduct and co-ordinate their functions and tasks with other relevant stakeholders. Unfortunately, previous experiences showed that this is contrary to the case, both within an agency and between agencies.

As mentioned earlier, forest and land fires are a multi-dimensional problem that needs multi- and cross-sectoral approaches. Yet, the Fire Sections within an agency has usually have *limited authority and are low in the hierarchy* so that they can only manage and co-ordinate their own programmes and activities. The upgrade of the Fire Section to Sub-Directorate and later on to Directorate level (see Section 3.1.1) not only shows the increasing importance of forest fire issues, but also points to the lack of ‘power’ to co-ordinate fire management among different sections within the Ministry of Forestry. Bapedal also restructured its fire section for the same reasons. However, these changes did not improve the situation significantly. Their authority was still questionable and the process too bureaucratic. Hence, to overcome this problem the Ministry of Forestry has established Puskarhutnas to help shorten the bureaucratic procedure and improve co-ordination among different sections within the ministry. The TKNKL and TKNPkHL were established under Bapedal for the same reasons. At the ‘higher level’, Bakornas PBP should be the coordinating forum for different ministries and governmental agencies involved in forest and land fire management, while at the ‘lower level’ some forums/teams have been setup in the provinces and districts (e.g. TKPKHL in East Kalimantan).

In practice, however, these forums or teams are ineffective because:

- They are *ad hoc*, convening when necessary with no mandate to prepare long-term strategies, national action plans and permanent activities.
- The high-level government officers appointed to be members of the forums may not have the right capacities to fulfil their duties, and many

see it as an additional responsibility over and above their ‘main’ jobs. Very often, regular meetings are attended by lower-level representatives with no decision-making authority. This defeats the purpose for establishing such forums in the first place. Moreover, the long and complicated procedures impede the planning and implementation process.

- Since such forums generally do not include available resources from non-governmental organisations (NGOs), universities, communities and others, they represent only the interests of the government and view problems from only one perspective.
- There are unclear and conflicting roles and responsibilities between various forums, particularly since some forums have been established without clarifying the existence and status of existing forums that more or less have the same function and task. Examples are the conflicting roles between TKNKL and TKNPKHL within Bapedal and between Pusedkarhutla and TKPKHL in East Kalimantan.

#### 4.1.6. Weak enforcement of regulations

One of the biggest problems in managing forest and land fires in Indonesia is the *weak enforcement of laws and regulations*. The example of the company in Riau, highlighted in Box 2, is the *only* ‘success’ story for legal redress, even though since 1997 hundreds of forest concessionaires, plantation companies, and transmigration area developers have been identified and accused of using fire in their land-clearing activities. Only a few were brought to the court, and only small percentage had their operational permits suspended by the Ministry of Forestry. However, most of these sanctions were rehabilitated within three months after the suspension.

The failures to take legal action against these companies could be traced to the weaknesses of the laws enforcers as well as the lack of political will, which is influenced by the practices of corruption, collusion and nepotism.

On the side of governmental institutions, as the law implementer, there are *deficiencies in their capacity and capability*. With less than 10,000 forest rangers to cover the entire state forests in Indonesia,<sup>8</sup> it is not surprising to find that they are unable to control, monitor and report all potential and real fire occurrences. They badly need support from the community and other institutions, particularly village and district governments, the military and police. The absence of incentives and poor access to the areas where fires break out are not helping their cause. Most people become engaged only when the situation is life threatening.

The skills, knowledge and experiences of government officers and agencies are also inadequate. The failures to punish the companies that set fire in their concession area as mentioned above, for instance, were partly because of government officers lack the skills to conduct investigation, collect necessary evidence and/or present them clearly in court. It has to be realised that fire became a very important issue in Indonesia only in the last two decades, with widespread fires causing devastating damages and loss to the community. Not much research or training focusing on fire management in tropical forests and lands has been conducted. Programmes that were implemented, including human resource development, were mostly based on technology and

<sup>8</sup> Estimation varies between 90 and 140 million ha.

knowledge that catered to different conditions (mostly developed countries with temperate climate). Notably, much local traditional knowledge on fire is also generally ignored and slowly being forgotten.

Weak law enforcement is also partially caused by the lack of accurate data and information on forest and land fires. Indonesia still has no ‘clearing house’ or information centre that can provide comprehensive and complete data and information on forest and land fires. The databases in the Ministry of Forestry and Bapedal, for example, are usually collected separately and kept in different formats, making it difficult to compile and verify them, particularly because of the weak co-ordination and co-operation between the agencies. Limited funds to develop communication systems, procure appropriate equipment and technology and, very critically, to enhance human resources compound the problems.

## 4.2. Basic problems

The weaknesses and constraints discussed above are symptoms of some basic problems in the Indonesian society, two of which are relevant to the context of this study: lack of incentives and vested interests.

### 4.2.1. Lack of incentives

There are not many incentives for *community* and other involved parties to protect the forest and land from fires. The overwhelming problem of unclear land-tenure in Indonesia leads very often to the situation where the local communities have no clear rights over land and natural resources and generally are not allowed to access and utilise them. The revisions of agrarian law and other natural resource-regulations during the last three years, which partly favours the local community have not changed the situation significantly. Certain parties have taken advantage of the ambiguity of the laws and regulations to abuse the system leaving the majority of local communities still insecure over ownership of the land and natural resources. Furthermore, many rural communities, especially outside Java, have *no skills or financial resources* other than to rely on traditional agricultural activities, using fire to prepare the land and to improve, at least for short term, the soil fertility.

The combination of both factors, lack of right over and access to the land and natural resources and their poverty, lead to the local community ignoring principles of sustainable land and forest management. In fact, many communities do not care about their environment, or else have no opportunity to do so. Moreover, they are reluctant to support the government’s programmes and activities, participating only when land and forest fires (including haze pollution) affect and threaten their livelihood directly. There are no incentives for them to report any violation of the law or monitor and collect new data on forest and land fires.

Similarly, there is lack of incentive for the *government officers* to conduct their tasks. *Low salary, career uncertainty and little appreciation of skills and knowledge* have resulted in a passive and unmotivated work attitude. Moreover, the common practice of *non-transparent rapid transfers or replacements* (sometimes on very short notice) makes government officers more concerned about how to keep their positions and not on how to conduct their tasks effectively.

The *private sector* also lacks incentives for good business practices. In timber

and crop plantation businesses, for example, since clear cutting and fire use promise additional profits and lower land clearing costs, these practices are consistently adopted by the companies. Moreover, the private companies have to set aside funds to cover huge 'illegal taxes' collected by various government offices/officers, a common practice in Indonesia because government control is weak. Increasing pressure from the international community for the concessionaires to adopt sustainable land and forest management practices has yielded no impact yet. When concession rights are limited to one rotation period, and there is no guarantee that the rights would be renewed for the next rotation, the concessionaires are usually *not inclined to undertake long-term investment and operate instead to reap the 'highest profit in the shortest period'*.

Under such conditions, laws and regulations cannot be implemented effectively at all. The use of fire for land clearing has been prohibited since 1996, but few people take it seriously. Companies and communities still use fire and, so far governmental control and law enforcement has been minimal.

#### 4.2.2. Vested interests

The policy on land and natural resource management and its implementation were generally strongly influenced by *economic interests that tend to marginalise environmental issues*. The policy on HTI and plantation development is a good example. Even though large-scale forest and land conversion for HTI and plantation development has been proven to be the cause of extensive fire outbreaks since the mid-1980s, so far the policy on HTI development has hardly changed. Huge forest areas, even protected natural forests and ecologically fragile peat and swamp areas, are still being converted every year. Large-scale forest conversion for other purposes such as transmigration, housing, industry, and mining to meet the demands and needs of increasing population and economic development is also ongoing. The situation is not expected to change much in the near future due to the prolonged economic crisis in Indonesia.

Converting and using forestland to meet the needs of the people is acceptable. The concern is that this may only be a cover for the economic interests of certain persons or groups. It is not so difficult to guess why a lot of HTI or oil palm plantations in Indonesia were developed in primary and good secondary forest instead in heavy degraded secondary forest, bush/grass land or other 'unproductive' areas where the income from log sales would have been far less or non-existent. This is also the reason behind the decision to open mining or to construct roads in many protected areas across Indonesia.

These are some examples of conflicts between economics and environment interests. But there are also other kinds of conflicts that reflect weak co-ordination between different governmental agencies and between central and local governments.

The difficulties in organising cross- and multi-sectoral co-ordination in fire management are basically due to *sectoral interests and the arrogance of governmental agencies*. Generally they want to retain their power and responsibility for their own sector. Even if the planning and development of programmes can be co-ordinated, co-operation on implementation may be stalled. For example, according to the Secretariat of Bakornas PBP Bapedal is expected to investigate the causes of

forest fires with the support of other relevant agencies/institutions. In many cases, however, the field office of the Ministry of Forestry, as the 'owner' of state forests, provides no or only little support to Bapedal in carrying out the investigation.

Other example is the fire management in agricultural plantations, such as oil palm and rubber. So far, the efforts to control fires in these areas under the co-ordination of the Ministry of Forestry haven't worked effectively. It was difficult to synchronise and co-ordinate the programmes and activities of both the Ministry of Forestry and Ministry of Agriculture (Directorate General of Plantation), which is responsible for the agricultural plantation sector. Secondly, the strong economic interests of plantation development, such as the production of softwood for pulp and paper industries and production of palm oil for export, exerted strong resistance against 'outside' interference. Even the merger of the Directorate General of Plantation into the Ministry of Forestry between 1999-2000, co-ordination between plantation and forestry sectors did not improve significantly. Land clearing by fire continues and the problem of forest fires and haze pollution persists.

In the last three years, the governmental conflicts seem to be more between central and provincial/district governments. During Suharto's era, everything was controlled from Jakarta and no political decisions could be made in the provinces and districts without permission from the central government. Even technical regulations and guidelines were prepared in Jakarta and the local government functioned only as 'prolonged arm' of the central government to implement them. During that time the natural resource management was fully controlled by the central government. While the profits from resource exploitation were diverted to a large part to the central government (inc. elite groups/individual in Jakarta), many provinces in Indonesia, particularly outside Java, were left underdeveloped and poor. This situation has radically changed since the fall of Suharto in 1998. Provinces and districts started to voice their disagreements and disappointments with the system and claimed more independence and rights in governing their natural resources. The issuance of Act No. 22/1999 and Government Regulation No. 25/2000 triggered the 'autonomy euphoria' all across Indonesia. Thousands of local (Provincial and Districts) Regulations were issued by local governments. Many of them were prepared only to *justify the local governments' (and local communities') exploitation of their own (natural) resources under the slogan to 'increase PAD (pendapatan asli daerah/real local income)' for 'local development' or 'improvement of local people's livelihood' often at a cost to the environment.* Combined with weak law enforcement and lack of control and supervision from the central government, forest and natural resources exploitation continues at increasing pace and scale. Uncontrolled forest logging, both legally and illegally, encroachment and conversion of forestland, and other kinds of destruction of forest and other natural resources in Indonesia has been accelerated in the last 3 years.

The situation has a very negative impact on the management of forest and land fires. Rampant exploitation and conversion of forestland all over Indonesia will degrade vast forest areas into very poor, light dense secondary forests, and grass/bushland, which making it more susceptible to fire. On the other hand, the development and implementation of a comprehensive and integrated fire management strategy will be more difficult due to the strong interest of most local governments to be more independent from central government and to prioritise economic development in their programmes and activities. It is expected that in the next years there will be no significant improvement in the co-ordination and co-operation of governmental agencies at various levels.

## 5. Recommendations

To address the weaknesses and basic problems discussed, several requirements are needed to create conditions conducive for a balanced management of forest and land fires in Indonesia:

- a. First, there must be willingness from all relevant parties - government, NGO, private company, community and others - at all levels to contribute and actively participate in comprehensive and integrated programmes and activities. There must be understanding that forest and land fires are collective problems and everyone has to work together to deal with these problems.
- b. It is very important to develop incentive schemes for all parties involved in forest and land fire management, especially for the local community, government and private companies.
  - For local community, it is necessary to clarify and guarantee their rights over and access to land and natural (forest) resources. Alternative income sources and/or financial and technical support must be provided for the poorest to reduce the use of fire (slash-and-burn) in their agricultural activities.
  - For government officers, it must be ensured that they have sufficient income and facilities to conduct their functions and tasks. Fair, clear and transparent career mechanisms have to be guaranteed, where education, skills and knowledge are part of the main criteria for career advancement.
  - For private companies, it is very important that the government maintains existing procedures and regulations consistently. It is also very important that they are protected from all threats, extortion and 'illegal taxes'. For forest and plantation concessionaire in particular, they must have clear rights over their concession areas. Moreover, they should also be allowed to extend their concession rights subject to the evaluation of their performance. Providing incentives such as tax-reduction for companies that manage their plantation or concession areas sustainably should also be considered.
  - To these three stakeholders, additional incentives or rewards can also be given for 'outstanding' performance or engagement in forest fire management activities.
- c. Development of comprehensive land-use management plans with clear definition of land ownership and appropriate land allocation based on a balanced consideration of economy, ecology and social factors. To develop the plans or update the existing one, new data and information on land use and status must be collected, since most of available maps, data and information in various agencies are outdated and often conflicting.



All stakeholders, especially the local communities, must be involved in the development process.

- d. Rigorous law enforcement against violations is needed. This will be a very slow process and the most difficult task because of the rampant practices of the so called-KKN (corruption, collusion and nepotism) for decades in Indonesia.

Specifically there are some (technical) recommendations to improve the effectiveness and efficiency of developed legal/regulatory and institutional frameworks on forest and land fires:

### 5.1. Legal and regulatory aspects

- a. Clear procedure and mechanism for developing laws and regulation  
The development process must be transparent for, and involve, all relevant stakeholders. Moreover, the enacted laws and regulations should be socialized and disseminated to all relevant stakeholders at various levels (see Box 3).

#### Box 3: Dissemination of laws and regulations

In the preparation of this document, it has become evident that copies of laws and announcements of changes to laws and regulations or analyses of amendments are not distributed or communicated within or between governmental agencies. This contrasts with the process of “gazetta” in many countries (e.g. Australia) where all such variations are documented, published and required to be circulated to all departments and/or all sections of relevant departments and not just the sections dealing with the aspect covered by the amended law or regulation.

- b. Integration and consolidation of current regulatory regime under one comprehensive law on forest and land fire management with its corresponding decrees, rules and regulations.  
At least fire prevention, suppression and control provisions in all legal instruments at various levels should be harmonised.
- c. Synchronisation and harmonisation of laws and regulations on forest and land fires with those from other sectors (e.g. plantation).  
The Badan Pembinaan Hukum Nasional (BPHN - National Law Agency) set up to fulfil this task must be empowered to be able to conduct its main function in checking and synchronising all legal products in Indonesia effectively.
- d. Integration of some proposals for national legal regimes on forest fire management identified in a review of legal regimes in South East Asia (Azrina Abdullah, 2001):
  - All terms used in legal instruments related to forest fire management should be technically sound, clearly defined and consistently used throughout the regulatory regime.

- The regulatory regime should provide a balance of prevention and mitigation measures.
- Measures for forest fire prevention and control should apply to all categories of forests and extend to areas outside forests and plantations.
- Offenders should be responsible for costs incurred in rehabilitating burnt forest areas. Such a provision, if enforced, could be a powerful deterrent particularly to private sector actors.
- Clear guidelines on what constitutes sufficient evidence to prove violations to ensure that charges against offenders can be sustained in court should be established.
- Unambiguous enforcement provisions and institutional mechanisms to implement them should be set up.
- In addition to assigning penalties for violations by private sector actors, the forest fire regulatory regime should set accountability standards for public sector authorities and specify the consequences of failures to meet those standards.
- Fines should be pegged to the cost of restoring areas burnt, in addition to fixed penalties for specific violations. The regulatory regime could establish a national fund for restoring areas burnt by forest fires. In this context, the existing reforestation fund system should be improved, especially under following considerations:
  - The fund is not a levy but only a ‘guarantee’ that the companies will, if necessary, restore or reforestate their concession areas. If a company is unable to do so, the government can use the fund to engage a third party to accomplish the task. Conversely, the companies must also be guaranteed that their contributions will be refunded if they conduct the restoration or if such activities are not necessary.
  - The amount of money paid into the reforestation fund should not be so high that the companies consider it a levy. On the other hand, it should also not be too low to be seen as an extra cost. The appropriate level has to be discussed and agreed among all relevant parties.
  - More transparency in the procedure, control and supervision with stronger public involvement is needed. The restoration fund should be managed by an independent agency and not by the government or representatives of the companies.

## 5.2. Institutional aspect

- a. Clear definition and appropriate distribution of fire management responsibilities and roles of governmental agencies and other stakeholders (particularly local communities and private sector) related to various types of land ownership and different tasks in fire management must be established.
- b. Co-ordination and co-operation within and among various governmental agencies through clearly defined and agreed procedures and mechanisms should be improved. Moreover, the agency responsible for fire

management must have sufficient authority to conduct cross-sectoral co-ordination among relevant agencies. If this is not possible, then a forum or board with high-level government officers from different agencies should be assigned the responsibility. This forum/board should be a permanent institution that allows development of long-term strategies and implementation of permanent activities.

- c. Clear organisational structure must be defined within an agency, and in the case of a co-ordination forum/board, among involved agencies.
- d. Sufficient resources, especially financial, staff and equipment, must be allocated.
- e. Skills and knowledge must be improved through both formal and informal education (training, workshop, etc.).

## 6. Conclusion

After the fall of New Order Regime in 1998 and when the economic crisis hit South East Asia, the political, economic and social landscapes in Indonesia changed tremendously, especially because of its decentralisation process. This led to very fast and - sometimes radical - transformations of the legal, regulatory and institutional frameworks on forest and land fires in Indonesia. Many laws and regulations were issued at various levels across Indonesia every day. Several new agencies and institutions were developed while many existing organisations were dissolved or restructured.

This report reviewed the legal, regulatory and institutional aspects of forest and land fires in Indonesia up till the beginning of 2002. While it is important to review and analyse the modifications that took place during such a dynamic transition, it has been difficult to keep pace with the changes. For example, during the finalisation of this report, Bapedal was dissolved and merged with the Ministry of Environment by the issuance of Presidential Decree No. 2/2002 regarding the changes of Presidential Decree No. 101/2001 on Status, Task, Function, Authority, Organisation and Work System of the State Ministry and Presidential Decree No. 4/2002 regarding the changes of Presidential Decree No. 108/2001 on Organisation Unit and Task of Echelon I of the State Ministry. A petition to challenge the new Decrees has been filled at the Supreme Court. However, without waiting for the decision of the Supreme Court, the Ministry of Environment has already made structural changes following the directions provided by the Decrees. This will naturally affect the information and analysis provided in this report. However, since this is a new development and the impact is still unknown, the authors did not find it useful to integrate the change into this report.

It should be kept in mind that changes are still to be expected in the future. Therefore, the authors feel that such reviews should be carried out and the results disseminated regularly to inform and prepare stakeholders for their tasks in managing forest and land fires in Indonesia.

## Bibliography

- (1999). Kumpulan peraturan perundang-undangan pengendalian kebakaran hutan di Indonesia. ITTO Project PD 12/93 Rev. 3 (F) Integrated Forest Fire Management in Indonesia, Phase 1: National Guidelines on the Protection of Forest Against Fire. Fakultas Kehutanan, IPB. Bogor, Indonesia.
- (2001). Peraturan pemerintah tentang otonomi daerah 2001. Penerbit Citra Umbara. Bandung, Indonesia.
- Act No. 5 of 1990 concerning Conservation of Living Resources and their Ecosystems.
- Act No. 22 of 1999 concerning Regional Government Administration.
- Act No. 23 of 1997 concerning Environment Management.
- Act No. 41 of 1999 concerning Forestry.
- Anon (1999). Inter-agency report on Indonesian forest and land fires and proposals for risk reduction in human settlements. United Nations Centre for Human Settlements (HABITAT), Jakarta, Indonesia.
- Azrina Abdullah (2001). A Review and Analysis of Legal and Regulatory Aspects of Forest Fires in South East Asia. Project FireFight South East Asia, Bogor, Indonesia.
- Bappenas (1998). Prevention, control, rehabilitation and transboundary issues. Proceedings of the International Cross Sectoral Forum on Forest Fire Management in South East Asia, 7-8 December 1998. National Development Planning Agency (Bappenas), Jakarta, Indonesia.
- Bappenas (1999a). Planning for fire prevention and drought management project. ADB TA 2999-INO. Final Report. Volume 1: Planning for fire prevention and drought management. National Development Planning Agency (Bappenas), Jakarta, Indonesia.
- Bappenas (1999b). Planning for fire prevention and drought management project. Volume 2: Causes, extent, impact and costs of 1997/98 fires and drought. National Development Planning Agency (Bappenas), Jakarta, Indonesia.

- Decree of the Director General of Forest Production No. 222/Kpts/DJ-VI/1997 on Guideline for Land Preparation without Burning for Timber Estate.
- Decree of the Director General of Forest Protection and Nature Conservation No. 243/Kpts/DJ-VI/1994 on Technical Guidelines for Forest Fire Prevention and Mitigation in Forest Concession Area and Other Forestland Uses.
- Decree of the Director General of Forest Protection and Nature Conservation No. 244/Kpts/DJ-VI/1994 on Technical Guideline for Forest Fire Suppression.
- Decree of the Director General of Forest Protection and Nature Conservation No. 245/Kpts/DJ-VI/1994 on Standard Operating Procedure for the Use of Forest Fire Suppression Equipment.
- Decree of the Director General of Forest Protection and Nature Conservation No. 246/Kpts/DJ-VI/1994 on Guidelines for Creating and Posting Forest Fire Sign.
- Decree of the Director General of Forest Protection and Nature Conservation No. 247/Kpts/DJ-VI/1994 on Guideline for Standard of Forest Fire Prevention and Mitigation Supplies.
- Decree of the Director General of Forest Protection and Nature Conservation No. 248/Kpts/DJ-VI/1994 on Standard Operating Procedure for Forest Fire Prevention and Mitigation.
- Decree of the Director General of Forest Protection and Nature Conservation No. 46/Kpts/DJ-VI/1997 on Guideline for Alertness and Safety on Forest Fire Suppression.
- Decree of the Director General of Forest Protection and Nature Conservation No. 48/Kpts/DJ-VI/1997 on Guideline for Forest Fire Control Command System.
- Decree of the Director General of Forest Protection and Nature Conservation No. 81/Kpts/DJ-VI/1994 on Implementation Guideline for Forest and Land Fire Control.
- Decree of the Director General of Plantation No. 38/KB.110/SK/Dj.Bun/05.95 on Guidelines for Land Clearing without Burning for Estate Crops Development.
- Decree of the Head of Bapedal No. Kep-25/2001 on Organisation and Work System of Bapedal.
- Decree of the Minister for Environment No. Kep-40/MenLH/3/1997 concerning National Coordinating Team on Forest and Land Fire Control.
- Forestry Ministerial Decree No. 523/Kpts-II/1993 concerning Forest Protection in Concession Area.

- Forestry Ministerial Decree No. 188/Kpts-II/1995 concerning Establishment of the National Forest Fire Control Centre (Pusdalkarhutnas).
- Forestry Ministerial Decree No. 260/Kpts-II/1995 concerning Guidelines for Forest Fire Prevention and Suppression Efforts.
- Forestry Ministerial Decree No.365/Kpts-II/1997 concerning National Mascot for Forest Fire Control.
- Forestry Ministerial Decree No. 97/Kpts-II/1998 concerning Emergency Procedure for Forest Fire Crisis.
- Forestry Ministerial Decree No. 123/Kpts-II/2001 concerning Organisation and Work System of Ministry of Forestry.
- Glover, D. and Jessup, T. (1998). The Indonesian fires and haze of 1997: The economic toll. Economy and Environment Program for SE Asia (EEPSEA) Singapore and the World Wildlife Fund (WWF) Indonesia. Jakarta, Indonesia.
- Glover, D. and Jessup, T. (1999). Indonesia's fires and haze: The cost of catastrophe. Institute of Southeast Asian Studies, Singapore and International Development Research Center, Canada.
- Government Regulation No. 28 of 1985 concerning Forest Protection.
- Government Regulation No. 25 of 2000 concerning Government Authority and Provincial Authority as a Autonomy Region.
- Government Regulation No. 84 of 2000 concerning Guidelines for Regional Organisation.
- Government Regulation No. 4 of 2001 concerning Control of Environmental Degradation and Pollution in Correlation with Forest and Land Fires.
- Government Regulation No. 39 of 2001 concerning Execution of De-concentration.
- Governor Decree of Riau Province No. Kpts 25/V/2000 concerning Pusdalkarhutla.
- Governor Decree of West Java Province No. 367/Kep.1163-Binprod/2001 concerning the Development of Pusdalkarhutla.
- Presidential Decree No. 3 of 2001 concerning National Coordinating Agencies for Disaster Management and Refugee Control (Bakornas PBP).
- Presidential Decree No.228/M of 2001 concerning Development of Mutual Co-operation Cabinet.

- Secretariat of Bakornas PBP (2000). Leading Sectors for Forest Fires Management. Office of the Coordinating Minister for People's Welfare and Poverty Alleviation/ Secretariat of Bakornas PBP, Jakarta, Indonesia.
- Secretary Bakornas PBP Decree No. 1/2001 concerning Organisation and Work System of Bakornas Secretariat.
- Secretary of Bakornas PBP No. 2/2001 on National Guidelines for Disaster and Refugee Control.
- Simorangkir, D. (2001). Tinjauan singkat kerangka hukum dan kelembagaan dalam penanganan kebakaran hutan dan lahan di Indonesia. Proceedings of Seminar Sehari *Akar Penyebab dan Dampak Kebakaran Hutan dan Lahan di Sumatera*. 11 Oktober 2001, Lampung, Indonesia.
- World Bank (2001). Indonesia: Environment and natural resource management in a time of transition. World Bank, Washington, DC., USA.



# APPENDIX 1: Brief descriptions of some land and fire management regulations

## 1. Act No. 5 of 1990 concerning Conservation of Living Resources and Their Ecosystems

A comprehensive Act concerning the conservation of living natural resources and their ecosystems is necessary as a legal basis for regulating the protection of live buffer system, the preservation of plant and animal species and their ecosystems, and the sustainable use of living resources and their ecosystems in order to assure their utilisation for people's welfare and improvement of the quality of life.

This Act consists of basic provisions that cover all aspects of the conservation of living resources and their ecosystems, while the implementation will be regulated by Government Regulation.

## 2. Act No. 23 of 1997 concerning Environment Management

Much of this law deals with the terminology; principal and goal, rights, obligation and the role of community; environmental management authority; environmental function sustainability; requirement of environment system; environmental conflict solution; investigation; and provision of criminal activity.

## 3. Act No. 22 of 1999 concerning Regional Government Administration

The Republic of Indonesia, as a Union Country, decentralises government administration by giving autonomy to the regions. Basically, this Act empowers community to enhance initiative and creativity, improve community participatory, and strengthen the role and function of Provincial, District and Council House Representatives.

Much of this law deals with terminology, region division, establishment and structure of region, region authority, form and structure of government administration, provincial/district regulation and Head of Region Decree, civil service in the region, finance in the region, co-operation and conflict management, urban area, guidance and supervision, Autonomy Advisory Council, transition provision and concluding provision.

## 4. Act No. 41 of 1999 concerning Forestry

Two chapters of Act No. 41 of 1999 specifically discuss forest fire, namely forest protection and nature conservation (6 articles) and provision against criminal activity (2 articles). Some important information from this Act is:

- Forest fire is a part of forest protection activities.
- The government should manage all aspects of forest protection inside and outside the forest.

- Holders of concession or licenses shall be responsible for forest protection including forest fire.
- The community should be involved in forest protection activities, including forest fire.
- No one is allowed to set fire to the forest. Forest burning is allowed only for special purposes such as to control forest fires, pest and diseases, and to manage natural habitats. In such cases, fire uses have to be approved by the legal authority.
- The penalty will be doubled for intentional or careless offences.

### 5. Government Regulation No. 28 of 1985 concerning Forest Protection

This regulation was being revised in 2001, but the sections that relate to forest fire are as follows:

- One of the forest protection efforts is to prevent and limit damages to the forest and forest products caused by people and livestock's activities, fires, natural forces, pests and diseases.
- Provincial forestry authorities are responsible for forest protection both inside and outside their forest areas.
- Holders of forest concessions are responsible for forest protection in their concession areas.
- Some forestry officers are given special training to enforce the laws.
- Local communities should be included in the forest protection efforts.
- Nobody is allowed to burn a forest, except with a valid permission.
- Communities living around the forest are obliged to participate in forest fire prevention and suppression efforts.
- Forest fire prevention and suppression efforts will be regulated in regional decrees under the Minister's direction.

### 6. Government Regulation No. 4 of 2001

The division of authority for forest and land fire management relies on Government Regulation No. 4 of 2001 concerning Control of Environmental Degradation and Pollution in Correlation with Forest and Land Fires.

The scope of the Government Regulation is to:

- prevent forest and land fire and environment degradation and pollution;
- suppress forest and land fire and environment degradation and pollution;
- rehabilitate the impact of forest/land fire and environment degradation and pollution;
- control the implementation of the efforts;
- give clear responsibility to central, provincial, district/council government and every concession/license holder;
- give authority to every province and district develop its own forest and land fire organisation;
- clarify obligations of individuals or concession/license holders on forest and land fire occurrence;
- enhance community awareness through development of traditional values and practices supporting forest and land protection and local institutions.

The budget is provided by both the central government through the National Budgeting System (APBN) and by the provincial/district government through the Provincial/District Budgeting System (APBD).

### 6.1. Authority of the central government

Article 23 states that the ‘Minister responsible for the forestry sector is to co-ordinate forest and/or land fire suppression beyond the boundaries of provinces or countries’ with no further explanation.

The Ministry of Forestry has added responsibilities that cover provision of equipment, development of human resources and international co-ordination for suppression purposes according to Article 24.

### 6.2. Authority of the provincial government

Article 27 states that the governor is responsible for controlling any damage and environment pollution related to forest and/or land fires that go beyond the boundaries of district or countries.

Article 28 states that in case forest and/or land fire occurs within the transboundary of the districts and councils, the governor is obliged to co-ordinate and control transboundary forest and/or land fires.

Article 29 states that the governor is allowed to establish or appoint a competent institution to manage forest and/or land fires in the area.

### 6.3. Authority of the government at the district/council level

Article 30 states that the Head of District is responsible for controlling any damages and/or environment pollution related to forest and/or land fires in the area.

Article 31 states that in case of forest and/or land fires, the Head of District is obliged to:

- control the fire;
- check the health of community living in respective districts affected by forest and land fires;
- assess the impacts; and
- announce to the community about the impact assessment and steps needed to reduce impact of forest and land fires.

## 7. Government Regulation No. 39 of 2001 concerning Execution of De-Concentration

Article 3 regulates the delegation of authority from central government to governor. Some of important tasks delegated are:

- Actualisation of Pancasila as state foundation and Constitution 1945, and socialisation of national policy in the province;
- Regional co-ordination, planning, implementation, technical assistance, monitoring and enforcement;
- Facilitation of collaboration and mediation of conflict between districts/ cities in the province;

- Facilitation of implementation and law enforcement;
- Technical assistance under the direction of the district government; and
- Repressive monitoring of Regional Regulation, Decree of Head of Region and Decree of Regional House of Representative (DPRD) as well as Decree of Head of DPRD of the District.

The co-ordination between the governor and Head of District is formed by the order of Government Regulation No. 39 of 2001, Article 5:

- Paragraph (2): agencies/units in provincial services are authorised to conduct activities in the province according to their task and authority.
- Paragraph (3): in case appropriate provincial services are absent, the governor can assign other provincial institutions and/or can establish a special Execution Unit.
- Paragraph (4): the governor is obligated to:
  - co-ordinate the tasks of the Regional Official and Central Government Official in the province as well as activities between the district and city in the province;
  - facilitate the implementation of guidelines, norm, standards, direction, training and supervision as well as conduct controlling and monitoring; and
  - provide input and consideration to the central government in relation to the implementation of central government authority in the province.

## **8. Government Regulation No. 25 of 2000 concerning Government Authority and Provincial Authority as Autonomy Region**

Setting the terms for regional autonomy is to enhance community welfare, fair distribution and justice, democratisation, local culture and potential and diversity of the regions.

The scope of authority is classified into several aspects including agriculture, sea, mining and energy, forestry and estate crops, industry and trade, co-operation, investment, tourism, employment, health, education and culture, social welfare, land-use/space planning, land tenure, public works, transportation, environment, domestic affairs and public administration, development of autonomy, budgets, population, sports, law and regulation, information and other specific aspects.

This regulation includes articles that can be used to strengthen the identification of authorities of central and regional governments to minimise overlapping of responsibilities.

### **8.1. Authority of the central government**

- For forests and plantations, ‘determination of criteria and standards, and execution of security and disaster control in forest and plantation areas’;
- For domestic affairs and public administration, ‘determination of guidelines on disaster control’;
- For environment, ‘establishment of standard quality of environment and determination of guidelines on environment pollution’; and
- Applicable to other fields, ‘control of epidemics and hazards of national scale’.

## **8.2. Authority of the provincial government**

- Forestry and plantation sectors;
- Forest protection and security of transboundary areas, including forest fire control;
- Environment sector; and
- Environment control of transboundary district/council areas and determination of environment quality based on national standards.

## **9. Government Regulation No. 84 of 2000 concerning Guidelines of Regional Organisation**

This regulation is an extension of Article 68 Paragraph (1) Act No. 22 of 1999 concerning Regional Government Administration. It provides a basis for the establishment of regional organisations such Forestry Service, Technical Executing Units in the provinces and districts/councils.