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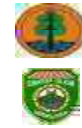


Institutional Development for Integrated Fire Management in South Sumatra, Part IV: Agriculture Sector



January 2007

Anja A. Hoffmann



PREFACE

The South Sumatra Forest Fire Management Project (SSFFMP) is a technical co-operation project jointly funded, in terms of the financing memorandum IDN/RELEX/1999/0103, by the European Commission and by the Government of the Republic of Indonesia through the Ministry of Forestry (MoF).

This report has been completed in accordance with the project Overall Work Plan (OWP) and

in part fulfilment of Activity 2.1 “Support government agencies, private companies, rural communities and other relevant stakeholders to improve fire management capacity at province and district levels”,

to achieve Result 2 “Stakeholders enabled to organize and apply fire management mechanisms in their areas”,

to realise the five-year project purpose, which is “Aid and facilitate the establishment of a coordinated system of fire management at province, district, sub district and village level throughout South Sumatra province in which all involved stakeholders, including the private sector, work together to reduce the negative impact of fire on the natural and social environment”.

This report has been prepared with financial assistance from the Commission of the European Communities. The opinions, views and recommendations expressed are those of the author and in no way reflect the official opinion of the Commission.

The report has been prepared by:

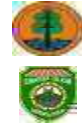
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The report is acknowledged and approved for circulation by the Project Co-Directors when duly signed below.

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ACKNOWLEDGEMENTS

The author would like to thank the South Sumatra Fire Management Project in particular its team leader Dr. Karl Heinz Steinmann as well as the Indonesian counterparts for their efforts that enabled me to carry out the task. Moreover, the author is very grateful to the Director of the Estate Crop Protection and the Director of Land Management of the Ministry of Agriculture in Jakarta and its staff for their co-operation and support.

EXECUTIVE SUMMARY

The fourth mission on Institutional development for Integrated Fire Management in South Sumatra aimed to integrate the Estate Crop Sector under the Ministry of Agriculture into the Fire Management Master plan by including the newly released regulations and also fire related programs. The approach was the consultation of various authorities of the Ministry of Agriculture at national and provincial level with focus on the Estate Crop sector. Relevant material such as regulations, land management manuals etc. with regard to fire were compiled and analysed for a summary. In addition an up-date of the fire management activities of the Ministry of Forestry and the Ministry of Environment was provided.

In general there are many positive efforts underway to overcome the fire and smoke haze problem of Indonesia. The traditional players such as MoF and MoE have undertaken tremendous efforts to improve and also implement their fire management activities in a more coordinated and streamlined way. A great variety of standard operation procedures by MoF have been developed and roles and responsibilities amongst the government institutions have better been clarified. MoE has further established its role to come up with a comprehensive action plan on forest and land fires. The now active involvement and role played by the agriculture sector is an important step towards an integrated fire management approach that includes finally the local farmers through prevention programs aiming for controlled burning and zero-burning techniques through provision of incentives and technical model

Two departments, namely the Estate Crop Protection and the Land Management Department in the Ministry of Agriculture, are concerned with fire management activities, specifically in the area of prevention and suppression capacities. For 2007 the National Estate Crop Protection Department has allocated a total of 3,740,300 Euro or 4,500,000,000 ID Rupiah in 2007 for fire management activities in eight fire prone provinces. The money is mainly spend for fire information and monitoring, awareness raising of local farmers, socialisation of existing laws, and introduction of land clearing methods without fire. At the provincial level the Department of Estate Crop peruses the idea of land management units to be responsible for fire management. Those units falling under the control of the department will be technically guided and supervised. The concept of land management units managed by the respective land owners is the right approach towards more effective fire management. However this will entail a consistent land use policy with clear and transparent boundaries of these land management units.

The Directorate of Land management has the function to develop the overall land management policies and technical guidelines. The Land Management Directorate has the lead for the development of fire prevention methods in the agriculture



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sector including the development of alternative to the slash and burn practices of local farmers. This includes the development of land clearing methods without the use of fire (composting and use of organic fertilizer) and the development of incentives for alternative of non fire use (seedling provision) and other income generating activities. However a major obstacle for an effective outreach program for prevention measures is still hampered by the limited number of extension workers in the agriculture sector.



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Institutional Development – Part IV**



RINGKASAN (INDONESIAN SUMMARY)

ABBREVIATIONS AND ACRONYMS

Abbreviation	Indonesian	English
EU	Uni Eropa	European Union
FMP		Fire Management Program/Plan
GTZ		German Technical Co-operation/ Gesellschaft für Technische Zusammenarbeit
ICS		Incident Command System
MNLH	Kementrian Lingkungan Hidup	Ministry of Environment
KARHUT-LA	Kebakaran Hutan dan Lahan	Forest and Land Fire
MoE	Kementrian Lingkungan Hidup	Ministry of Environment
MoF	Departemen Kehutanan	Ministry of Forestry
MODIS	Moderate Resolution Imaging Spectroradiometer	
Prop	Propinsi	Province
SSFFMP		South Sumatra Forest Fire Management project
SOP	Prosedur Tetap	Standard Operating Procedures
UU	Undang-Undang	Law

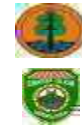


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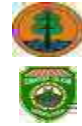
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1 Objective of the mission

The South Sumatra Forest Fire Management Project is a co-operation project between the Government of Indonesia and the European Union. It aims to:

Aid and facilitate the establishment of a coordinated system of fire management at the province, district, sub-district, and village level throughout South Sumatra in which the local communities, private sector companies and government agencies work together to reduce negative impact of fires on the natural and social environment.

In this context the fourth mission aimed to complement the Fire Management Master Plan (Report 1-3 “Institutional Development for Fire Management”) by including the newly released regulations and also fire related programs of the Ministry of Agriculture and in particularly those of the Estate Crop Sector.

In addition coordination mechanism between administrative levels as well as the already existing fire management structures of village fire crews, Manggala Agni fire crews and others should be elaborate and described.

2 Work approach

The approach was the consultation of various authorities of the Ministry of Agriculture at national and provincial level with focus on the Estate Crop sector. Relevant material such as regulations, land management manuals etc. with regard to fire were compiled and analysed for a summary.

Furthermore stakeholders such as the Ministry of Forestry and the Ministry of Environment have been visited and respective representatives consulted on an update of the fire management programs.

The following institutions and their representatives have been consulted.

Table 1: Visited Institutions

Institution	Representative
Ministry of Agriculture; Directorate Estate Crop Protection	N. Herdradjat (Director)
Ministry of Agriculture, Directorate Food Crops	A. Wasiati (Director)
Ministry of Agriculture, Directorate Land Management	IR. Surhatanto (Director)
Ministry of Forestry, Directorate Fire Prevention & Control	H. Santosa (Program Director), Zulkifli (Project counterpart)
Ministry of Environment, Directorate Fire	H. Sigit (Deputy of Directorate for Environmental Degradation control) P. Saroprayogi (Division head for fire prevention and control)
ASEAN	A. Kamal (Head of Disaster Management Division)
Provincial Department of Estate Crops (Palembang)	C. Syamuil (Head)
Head of Rubber & Palm oil association South Sumatra	S. Syahbana

3 Introduction

The underlying causes of fires and the contribution of the agriculture sector have been sufficiently described in the previous reports that are “Institutional Development for Integrated Fire Management, part 1-3”. Land preparation activities by small and large-scale holders have always been a major factor for widespread fires and associated smoke haze in Indonesia. In fact activities leading to fires in this sector have rather increased. The estate crop plantation sector for example has increased the plantation area since the beginning of the 1970 from 5.78 million ha to 18.10 million ha in 2005, whereby the majority of this area with 11.9 million hectare is managed through so called “Kepala Keluarga Petani Pekebun” meaning by local farmers.

South Sumatra has about 450 000 ha of plantation area whereby 150 000 ha is managed by local farmers. The prospective planning is to increase the plantation area up to 800 000 ha with 50% portion of management by local farmers.

In 2006 the overall number of fire events in South Sumatra detected by the MODIS sensor was 16281. Out of these 3730 fire events were detected within the boundaries of Estate Crop plantations and 2419 in other Non Forest area which is then regarded as land being used by local people for various agricultural reasons (Figure 1). Moreover vast Forest areas (mainly conversion forest) are already encroached on local people and are being prepared for agricultural reasons with the help of fires.

As described in previous reports the use of fire for land preparations is prohibited for both large scale and small scale purposes. This has now been re-enforced by law No. 18, Paragraph 26 (Undang- Undang Nomor 18, Tahun 2004, Pasal, 26) regarding the “Zero-burn policy to open land”. In the case of large scale estate crop companies they are urged to remove plant residues mechanically. They are furthermore also responsible for the land management of the area of the local farmers hence have the obligation to prepare their land without the use of fire.

In the past the Ministry of Agriculture with its respective departments has neither played an active role in the prevention or suppression of fires nor was it included in the overall structure of the National Disaster Management Board (Bakornas) for fire and haze control (see also report 1-3 “Institutional Development for Integrated Fire Management). However it has been now acknowledge by the responsible Ministry of Agriculture and its respective Departments that the mere existence of laws is not enough to prevent agriculture fires. A set of activities and attempts are underway in order play a more active role in fire prevention and suppression. The following report gives a summary of these activities.

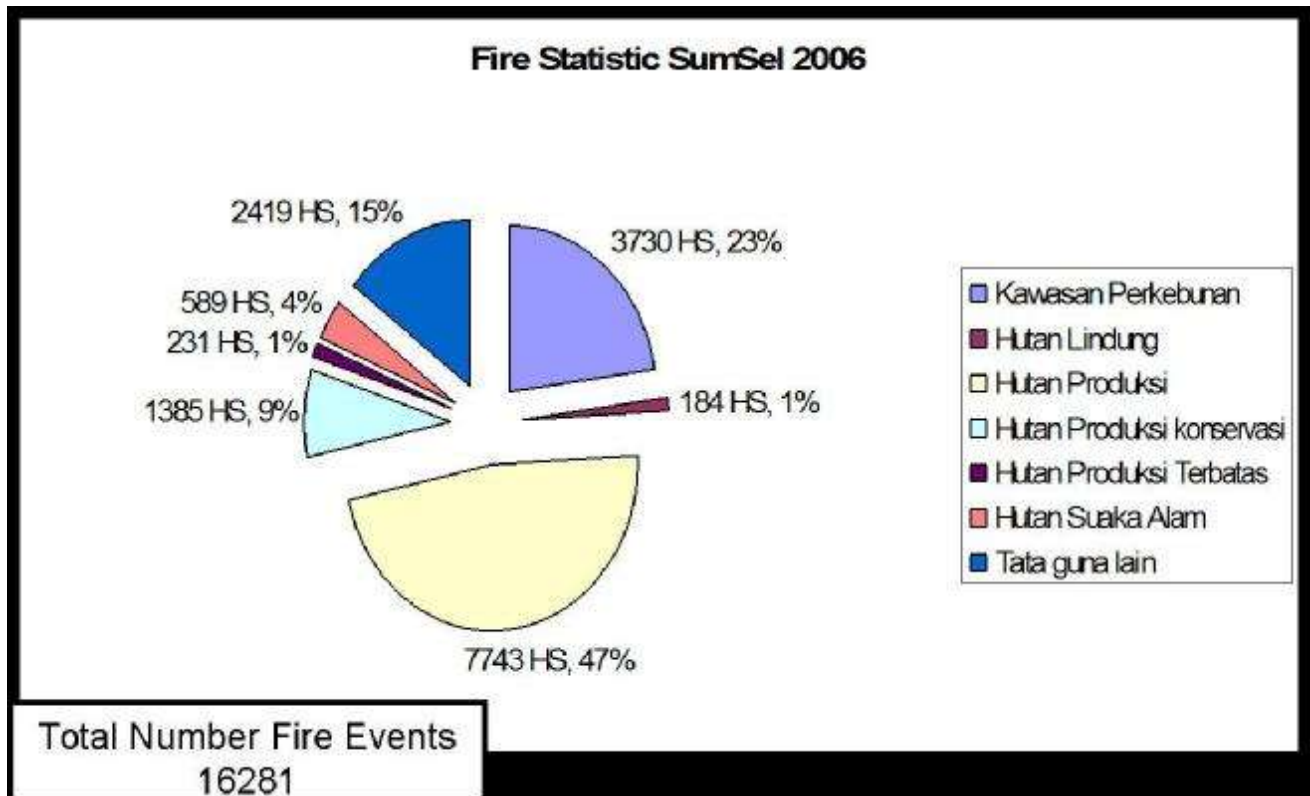
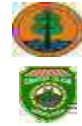


Figure 1: Fire Events related to land use



4 Summary of the results for the counterpart

In the following is a summary of the activities in fire management of the major players in Indonesia that by today also include the Ministry of Agriculture, Ministry of Forestry and the Ministry of Environment.

4.1 Ministry of Agriculture

The Ministry of Agriculture (MoA) currently consists of 6 Directorate General that are Estate Crops, Food Crops, Horticulture, Animal Husbandry, Land and Water Management as well as Marketing. Each Directorate General consists again of several directorates. Those with programs and activities with regard to fire management are the Directorate of Estate Crop and the Directorate of Land and Water Management. Figure 2 shows the organisational structure of the Ministry of Agriculture. The fire symbols in the chart indicating that these two departments, namely the Estate Crop Protection and the Land Management Department, are concerned with fire management activities, specifically in the area of prevention and suppression capacities.



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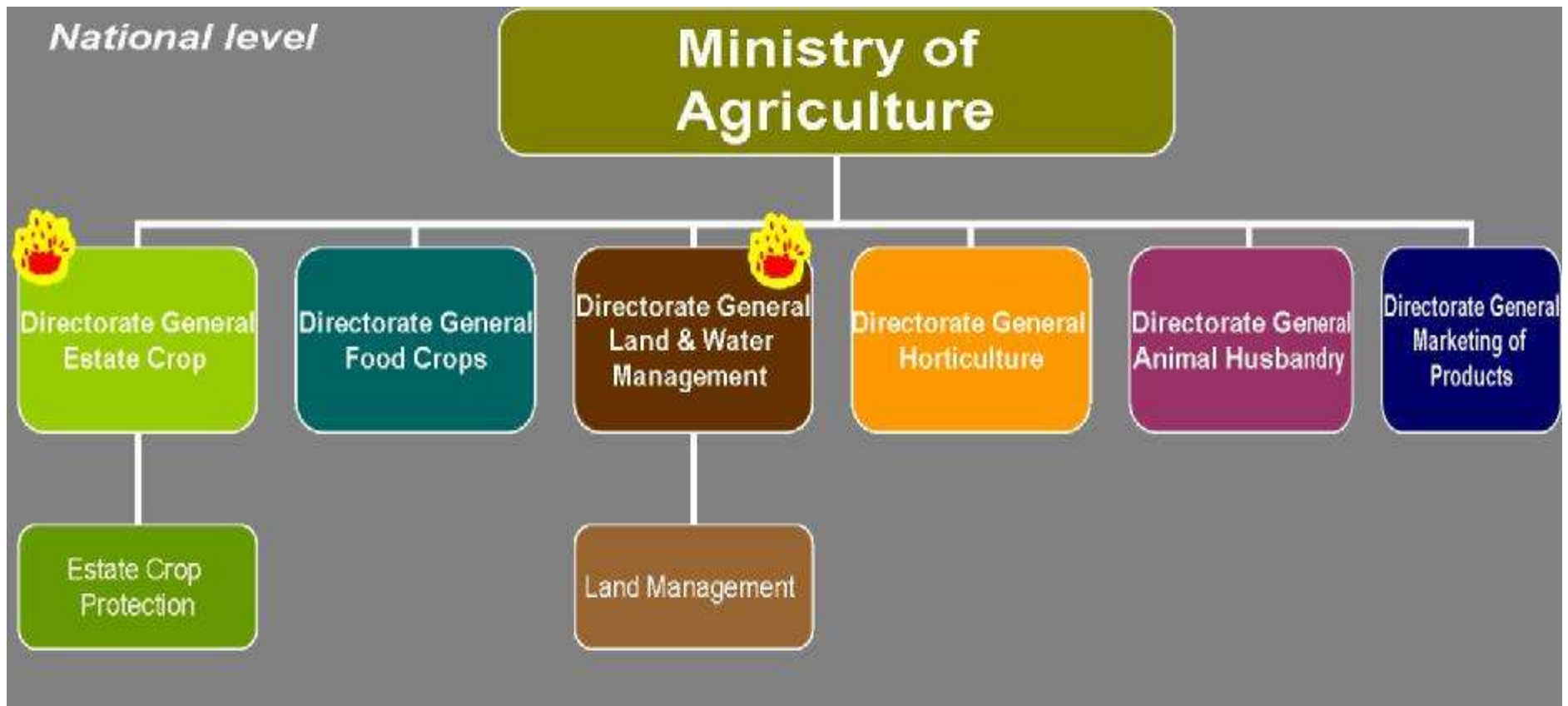
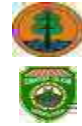


Figure 2: Organisational Structure of MOA



4.1.1 Department Estate Crop Protection National level

For 2007 the Estate Crop Department has allocated a total of 3,740,300 Euro or 4,500,000,000 ID Rupiah in 2007 for fire management activities. The money will be spent in eight fire prone provinces (and 38 districts) that are

1. Central Kalimantan : 767,355,000 ID Rupiah,
2. Riau : 741,555,000 ID Rupiah,
3. West Kalimantan : 718,515,000 ID Rupiah,
4. East Kalimantan : 501,355,000 ID Rupiah,
5. South Kalimantan : 496,855,000 ID Rupiah,
6. South Sumatra : 459,855,000 ID Rupiah,
7. Jambi : 438,355,000 ID Rupiah,
8. North Sumatra : 376,155,000 ID Rupiah.

The aimed results are mainly focusing on:

- Establishment of a Fire Monitoring System (Hotspots)
- Fire prevention programs for Estate Crop Plantations
- Knowledge and awareness raising of local farmers, the local and provincial estate crop department towards fire prevention activities.
- Provision of skilled personnel at provincial and district level
- Socialization of law UU 18/04 and “Land clearing without fire” guideline to communities (village chief, “toko masyarakat) & Estate Crop Departments at (fire prone) district level
- Training for fire suppression for local communities
- Socialise the technical Guidelines on “Land clearing without the use of fire” and Pilot projects for “Land clearing without fire” (seed provision, decomposer, cheaper, briquette maker). See also section 4.3.1.

The respective activities to achieve these results are carried out by the provincial and district department responsible for estate crops.

4.1.2 Estate Crop Department Provincial Level

The Estate Crop Department at the provincial level in South Sumatra and its section for Monitoring and Controlling of (non-operational) under the division of Estate Crop Protection is the leading section for fire management activities (Figure 3).

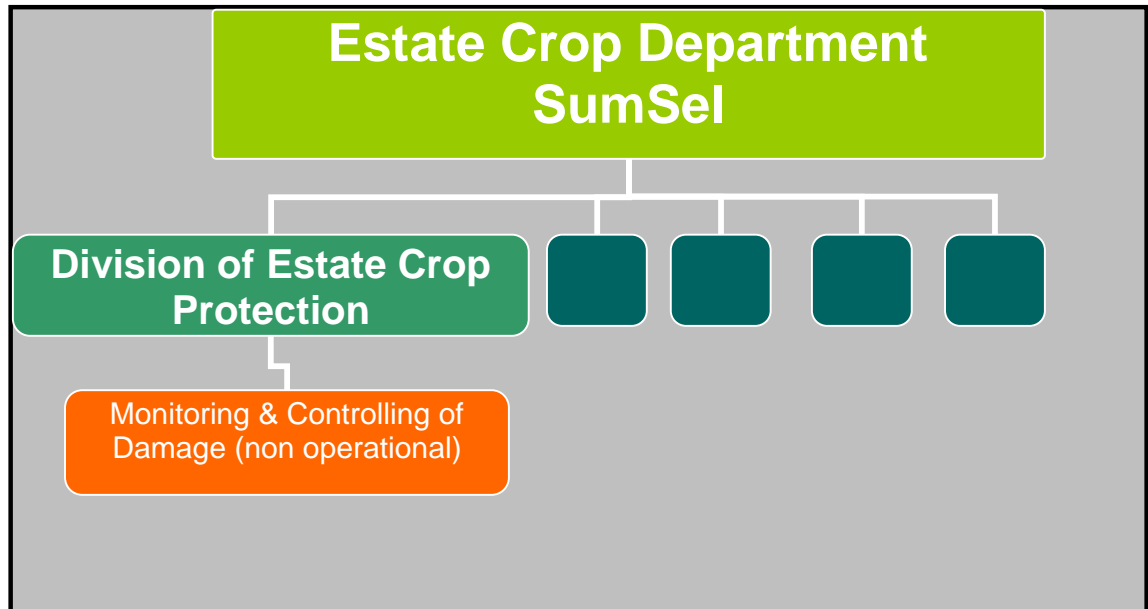


Figure 3: Organisational structure of Provincial Estate Corp Department

In 2006 the Department has carried out various activities with regard to fire management such as:

- Introduction course “ Fire control of land & estate crop fires” 3 days, 30 people
- Socialisation of the prevention of estate crop & land fires in 13 districts (325 people)
- Production of fire suppression guideline (325 people)
- Fire suppression training to 35 companies (350 people)
- GIS training of 10 people from Provincial Department of Estate Crop (SSFFMP supported)
- Coordination meetings with other relevant fire management stakeholders

During discussion with the Head of the Estate Crop Department he highlighted the idea of the establishment proper land management system whereby each sector is responsible for its respective land management area. That would then also have the consequence of special training and monitoring units at the district level to ensure proper use of the area and resources. This would require a total review of the current land use today. Once the land management units are established each land manager whether it is a government agency or private land owner must provide for fire management activities including buffer zone areas (see also figure 3 in section 5).

This concept actually is very close the idea of a Fire Management Plans for land management areas which has been proposed in Report 3 of “Institutional Development for Integrated Fire Management”:

“Ideally each land manager and land management agency and others concerned with fire need to have a Fire Management Plan (FMP) being a strategic plan that defines programs to manage fire. The FMP must provide for prevention workers and fire fighters and public safety and includes therefore fire management strategies, tactics, communication plans, addresses values to be protected and public health issues as well as rehabilitation measures. It must be consistent with resources management objectives and environmental laws and regulations”.

4.1.3 Agriculture Land Management Sector

The Directorate General for Water and Land Management with its Directorate of Land management has newly been established. In general this Directorate has the function to develop the overall land and water management policies and technical guidelines, which by then should be implemented by the remaining other Directorates. The Land Management Directorate has therefore theoretically the lead for the development of fire prevention methods in the agriculture sector including the development of alternative to the slash and burn practices of local farmers. This includes the development of land clearing methods without the use of fire (composting and use of organic fertilizer) and the development of incentives for alternative of non fire use (seedling provision) and other income generating activities.

The Land Management Directorate is the main promoter for a general revitalisation of the agriculture sector in terms of higher and more efficient rice production namely the introduction of the “System of Rice Intensification (SRI)¹”. SRI shall increase

¹ SRI –System of Rice Intensification: By changing how plants, soil, water and nutrients (organic fertilizer) are managed, SRI can achieve average yields about double the present world average of 3.8 t/ha.

the output from less-irrigated rice production. SRI uses, next to other ways of how rice plants are managed, organic fertilizer instead of chemicals. It is therefore an incentive for composting slashed material instead of burning that in turn lowers the pressure for the expansion of slash and burn practise. Since the SRI also requires only about half the water as normally applied in irrigated rice production, it can also reduce the pressure on the Sonor rice cultivation practice as applied in the wet- and peat lands of South Sumatra, one major source of the yearly recurring smoke-haze problem.

Furthermore the Land Management Directorate has the responsibility for the inventory and zoning of critical soil and land use types. The consequent protection of such land use types would prevent the agricultural use e.g. of peat land areas and hence prevent excessive smoke haze production. However such management activities have hardly started thus will take considerable time and management efforts to be implemented finally.

The Land Management Directorate has further released various technical guidelines that include methods for composting and charcoal and briquettes making. As well as various guidelines soil conservation and technical as well as organic improvement of soil fertility (slash use) (see Table 2).

After all it has been recognised that the overall extension worker concept in Indonesia needs to overhauled and revitalised. In 2006 a new law (UU No. 16, 2006) attempts to harmonize and standardize the extension work concept of agriculture, forestry and fishery. The three sectors shall reach maximum efficiency through an integrated extension work concept. Programmes and content will be overall developed and coordinated by an interagency organisation (BADAN) and the number of extension workers is intended to be increased. Since the fire problem is a cross-sectoral problem a streamlined extension work concept will also offer the opportunity for a more effective and common approach in fire prevention and awareness campaigns and programmes. Concepts of controlled burning, use of composting methods or non-burning concepts are in all three sectors relevant and can be brought across either by agriculture, forestry or fishery extension workers for maximum outreach.

Table 2: Various technical guidelines by the Land Management Directorate

1	Pedoman Teknis Pengembangan Jalan Produksi
2	Pedoman Teknis Pengendalian Lahan (Penguatan Hak atas Tanah Petani)
3	Pedoman Teknis Pengembangan Usahatani Konservasi Lahan Terpadu
4	Pedoman Teknis Optimasi Lahan
5	Pedoman Umum Inventarisasi Data Teknis Lahan Kritis

4.2 Fire management activities of other sector

In the following is an up-date of the fire management activities of the Ministry of Forestry and the Ministry of Environment.

4.2.1 Ministry of Forestry – Manggala Agni

Most significantly the Department for Fire Control and Prevention has expanded its Fire brigade system to North Sumatra, South Kalimantan and South and West Sulawesi. The total number of crews is by today 104 with a total of 1560 people. It furthermore has introduced Tactical Force crews for fire control and rescue. The force is called SMART ((Satuan Manggali Agni Reaksi Taktis) and comprises selected members of Manggala Agni. They are trained for immediate action in response to fire emergencies and might be compared to the functions Hotshot Crews² in the US fulfil. In addition has a reasonable amount of trainers and pump mechanics available for continues training program in various fire fighting levels. A profile brochure published in June 2006 gives an excellent overview about the current status quo of number of trained crews and people and other achievements of the Manggala Agni.

² Intensively trained fire crew used primarily in hand line construction (Type-1).

Furthermore the Department for Fire Control and Prevention has developed numerous and simple standard operating procedures (SOP) in the fields of prevention, suppression, equipment maintenance and law enforcement. In addition an overall fire suppression mobilisations plan for initial and extended attack within Manggali Agni and in combination with other stakeholders has been developed (see Appendix 1). These are important steps towards standardization of various fire management operations and effective and efficient implementation of fire suppression efforts. It is desirable that these SOPs will be adopted by other stakeholders such as the Estate Crop sector.

4.2.2 Ministry of Environment

The Ministry of Environment (MoE) following its mandate has developed a variety of prevention materials mainly comics and posters to raise awareness in local communities. Furthermore it has carried out numerous prevention campaigns at local level mainly in Riau. Law enforcement teams have mainly been prosecuting culprits in Riau and have led to a decrease of fire events. But most importantly the MoE has developed a quite comprehensive action plan on forest and land fire control for 2007 – 2009. This plan foresees next to activities implemented by MoF the active involvement of the Ministry of Agriculture with activities described in the previous sections. The action plan offers clear structures of roles and responsibilities of each sector and activities to be carry in the field of prevention, suppression, law enforcement and rehabilitation. It also includes the idea of a Fire Management Plan (FMP) of each land manager such as forest concession and estate crop plantations and the control function and supervision of such plans through the respective of departments.

Detailed activities include the establishment of village fire brigades, provision of simple hand tools to farmers, socialisation of burning permits concept and assistance in controlled burning, general awareness raising, development of emergency response centers etc. the money spend in 2007 is estimated with 602.875.000 ID Rupiah, in 2008 with 563.475.000 ID Rupiah and in 2009 with 563.475.000 ID Rupiah. Additional funding is to be estimated with 286.000.000 ID Rupiah.

5 Overall conclusion and recommendations

5.1 Conclusions

In general there are many positive efforts underway to overcome the fire and smoke haze problem of Indonesia. The traditional players such as MoF and MoE have undertaken tremendous efforts to improve and also implement their fire management activities in a more coordinated and streamlined way. A great variety of standard operation procedures by MoF have been developed and roles and responsibilities amongst the government institutions have better been clarified. The now active involvement and role played by the agriculture sector is an important step towards an integrated fire management approach that includes finally the local farmers through prevention programs aiming for controlled burning and zero-burning techniques through provision of incentives and technical models.

However the activities in the agriculture sector are still in the very beginning. A major obstacle for an effective outreach program for prevention measures is still hampered by the limited number of extension workers in the agriculture sector. The initiated activities regarding composting methods have so far only been tested on Java and Bali. The material to be composted in these areas differs significantly from those on Sumatra. On Java and Bali the straw of the rice fields is used meanwhile on Sumatra much more compact and harder material from trees and branches will be utilized that in turn needs a more robust technology of shredder and thus more intensive extension support than actually available. The same will be true for supervision of seedling provisions. To have a significant decrease on open land burning activities in the small holder sector a massive extension program will be required that solely focuses on the goal to prevent slash and burn practice.

The concept of land management units managed by the respective land owners is the right approach towards more effective fire management that is already required by PP4, 2001. However this will entail a consistent land use policy with clear and transparent boundaries of these land management units. This problem has been thoroughly described in Report No. 2: *“However, prosecution in any case remains difficult, firstly due to unclear land use/rights and boundaries and secondly due to the even more indistinguishable system of locally managed agro forestry cooperatives, the so called “Hutan Inti Rakyat” or “Perkebunan Inti Rakyat” locally managed plantation areas supported by large scale companies by various means (e.g land clearing seeds). In both cases land use boundaries are rarely clear hence fire is neither stopped at any border line nor do local people feel responsible to prevent agriculture fires from spreading”*

Unless local governments and respective land management agencies at provincial and district level provide are willing to finally introduce a proper land demarcation systems which clearly defines land use boundaries, areas of responsibility for fire management and suppression will be difficult to define.

It also remains unclear to what extent the Estate Crop Department requires training in fire suppression than rather in the understanding of what a fire management plan for plantation requires and how it needs to supervised and controlled by the department. One needs to question whether in the future fire brigades similar to those of Manggala Agni are needed by the Estate Crop Department or whether areas of estate crop plantations are not better fully managed by the land owner. The areas managed by local farmers or cooperatives need to be fire managed either by the adjacent large scale company or by the local village crews. Figure 3 shows an example for land management units and responsibilities. Trained forces such as Mangalla Agni should be always on the highest alert and always ready to join forces with local village fire crews once they exceed their capacities.

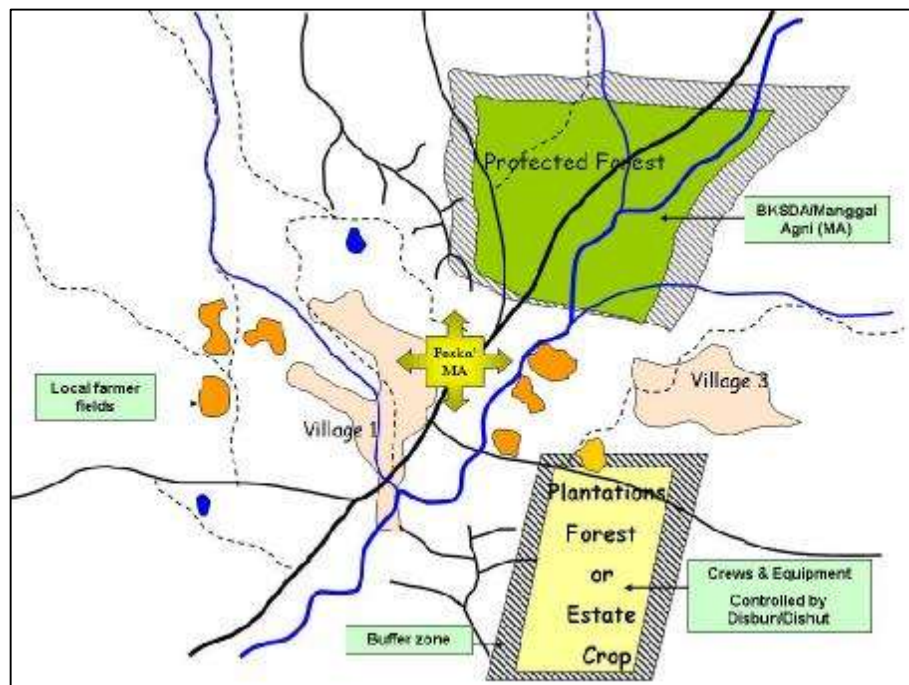


Figure 4: Land management Units

The more players join fire suppression activities the clearer must be the area of responsibility of each fire fighting unit in order to reach best efficiency. In addition a means of co-ordinating the efforts of agencies as they work towards the common goal of fighting a fire should be established. Many large-scale fires, require co-ordination across several agencies. One internationally accepted management system for Wildland fire incidents is the “Incident command System” ICS. The ICS can reduce the risk of agencies to overlap and create potential confusion at a fire through poor understanding and inadequate co-ordination. It is critical that a Wildland fire incident management system is adopted that will enable any assistance to quickly function in an effective manner. ICS is that tool which can enable that goal to be achieved.

5.2 Recommendations

- SSFFMP should support the efforts of the Estate Sector to increase the knowledge and competence in fire management. However the focus should not necessarily be on fire suppression training then rather to support the development of standard fire management plans for plantation areas.
- Support the socialisation of the existing SOPs developed by MoF.
- At district level a fire suppression mobilisation plan defining the roles and responsibilities as well the coordination and financing mechanism of the major fire fighting forces should be established and agreed upon. Such a mobilisation plan can be supported by the introduction of the Incident Command System.
- SSFFMP should facilitate the establishment of law enforcement teams following the examples set by MoE in Riau by inviting such law enforcement team for training in Sumsel.

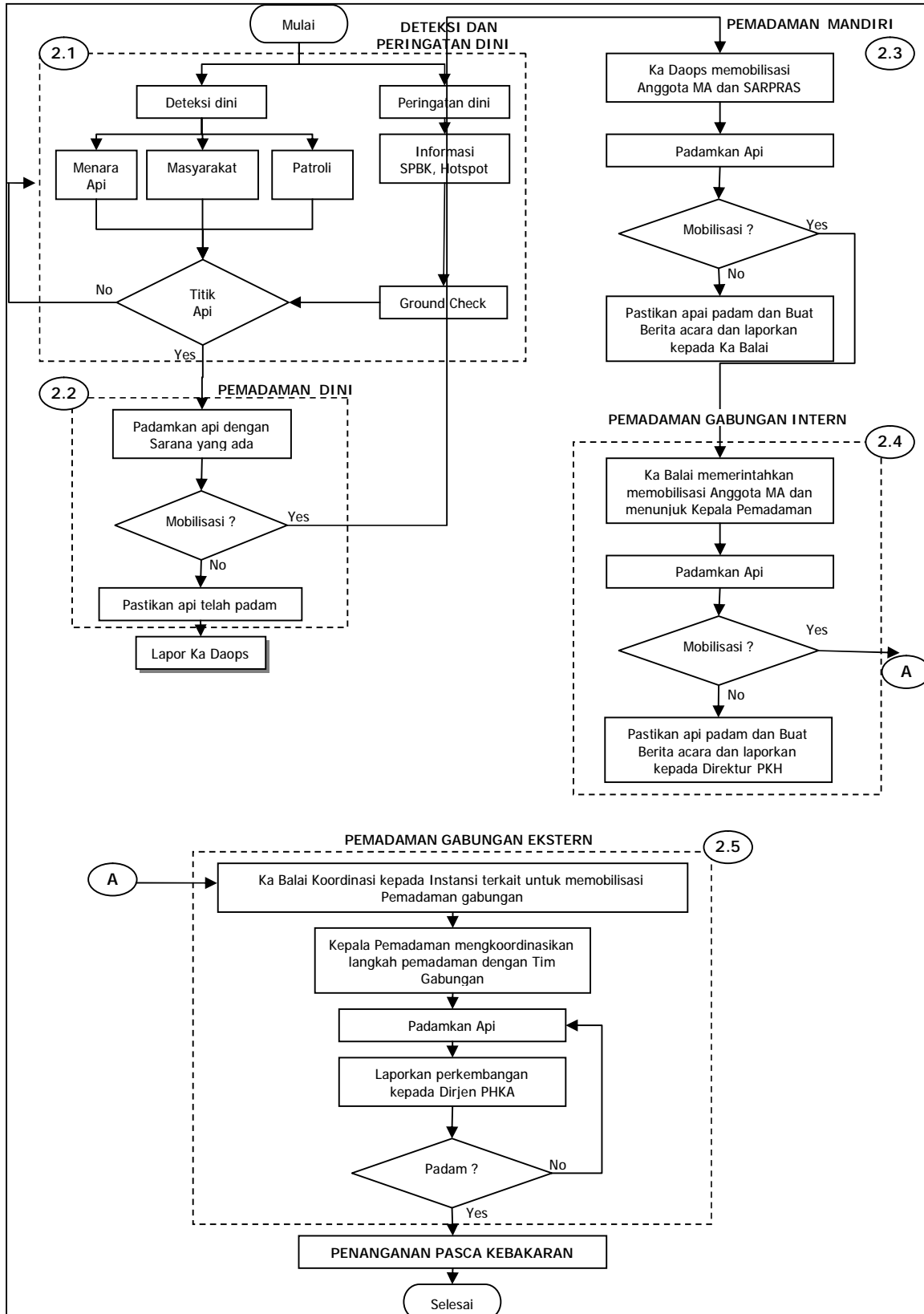


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Appendix 1

SOP for fire suppression





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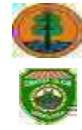


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Appendix 2

Terms of References



**Terms of Reference / Work approach
For International Short-term Institutional Development / 1 PM (63)**

**Update and complete the draft Fire Management Master Plan for South
Sumatra**

Background:

- Fire history in South-Sumatra and SSFFMP goals.
- The EU program in Indonesia.
- Earlier institutional analysis studies
- Known and available laws, regulations and guidelines

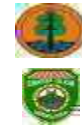
Main Tasks:

- Include an analysis of the Plantation Sector under the Ministry of Agriculture and describe future plans and activities for the near and medium term future concerning fire management, (at the beginning of the project the Ministry of Agriculture was not yet very active in FM, hence it could not be included or considered a major stakeholder)

The analysis should include:

1. Responsibilities of the the Directorate General for the Plantation Sector based on the existing laws and internal set up
 2. Present and planned tasks in FM
 3. Present personnel, infrastructure and equipment available and planned for 2007/8
 4. Indicate coordination aspects and requirements between the National Provincial and District set ups and the other main players
- Elaborate on coordination aspects and requirements between village fire crews, plantation fire crews (Perkebunan and Kehutanan) and Manggala Agni” Fire Brigades in South Sumatra
 - Indicate on activities Manggala Agni could perform or offer to village fire crews, district governments and the private sector (awareness, training, assessment, etc.) and give recommendations on funding sources
 - Together with the Managers of DAOPS formulate needs and requirements to further strengthen Manggala Agni in South Sumatra / other provinces
 - Provide info and inputs for FM from experiences in other continents and countries
 - Socialise the findings to the stakeholders via a seminar at the end of the assignment

Duration and Time:



- The International expert shall cover the tasks within one-person month (1 PM).
- The assignment should start end of October 2006 and be finished before end of December 2006.

Results and Outputs of the Assignment:

- Assigned functions and responsibilities in FM of major new players are known
- The further integration and development of the “Manggala Agni” fire brigade in South Sumatra is supported.
- Recommendations are available to further fine tune the set up
- The set up is repeatedly socialised and receives increased support of the provincial and district governments .

Deliverables / Reporting Requirements:

- The consultant will submit a draft report, comprising the major findings and recommendations and according to the format which will be agreed upon with the Teamleader, to the SSFFMP Project Management Unit (PMU) / Teamleader in electronic and printed version during the final week of the consultancy visit. The draft report will be discussed with the PMU prior to the end of the consultancy visit.
- A final report in electronic and printed version, incorporating comments from the PMU, will be submitted to the PMU, within two weeks after receipt of such comments. Additionally, Time Sheets will be submitted to PMU together with the final report.
- An electronic and printed version of the final report and a printed version of the time-sheets will be submitted with the final invoice to Jan Zonnefeld, DHV, Holland.

Profile:

- He/she should have a master degree in natural resource science with experience in tropical fire management and its related issues. Additional experience in organizing and facilitating seminars, workshops and presentations as well as multi-stakeholder processes.
- The expert must have a thorough knowledge and understanding of the existing fire management concept and activities ongoing in Indonesia including the Indonesian government activities as well as other (donor-supported) fire projects. Additional knowledge and understanding of the Indonesian decentralisation processes is desirable.
- The expert must have excellent interpersonal, professional and diplomatic skills, a clear understanding of the advisory role in a technical cooperation project and should be used to acting in the role of mentor and trainer.
- The expert should be able to work productively with a broad range of professional counterparts, including governmental and non-governmental organizations, EU officials.
- Outstanding writing skill is required with the ability to meet deadlines, and provide concise report.
- Written and oral fluency in English is required, and understand Indonesian language is desirable.
- Basic computer skills.

Experience:



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- A minimum ten (10) years of professional work experience, including at least five (5) years in Asian, in the content of the tasks and responsibilities as described above.
 - Experience in integrating tropical fire management issues into all aspects of project planning.
 - Proven ability to work effectively in a team environment and productively work to achieve results.
 - A good understanding of technical cooperation, society, government in Indonesia is desirable.
 - Familiarity and experience with EU systems is desirable.



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