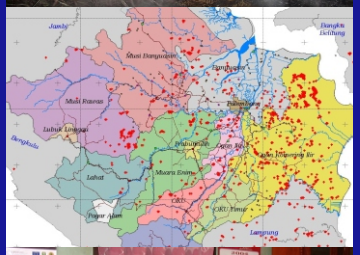

South Sumatra Forest Fire Management Project

E5

SSFFMP

Summary Report of Results and Achievements

COMMUNITY DEVELOPMENT

European Union

South Sumatra

Department of Forestry

South Sumatra Forest Fire Management Project

SSFFMP

Summary Report of Results and Achievements

COMMUNITY DEVELOPMENT

by

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Community Development Specialist

July 2007

South Sumatra Forest Fire Management Project
Project No: IDN / RELEX / 1999 / 0103

Executing Authority: Ministry of Forestry
Implementing Agency: Government of South Sumatra Province

Project Start: January 2003
Project End: January 2008

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Abbreviations

	English	Indonesian
AWP	Annual Work Plan	Rencana Kerja Tahunan
AYT	Value at Risk	Aset Yang Terancam
Bappeda	Regional Development Planning Board	Badan Perencanaan Daerah
Bappedalda		Badan Pengendalian Dampak Lingkungan Daerah
BB Padi	Paddy Research Agency	Balai Besar Padi
BC Ratio	Benefit Cost Ratio	Rasio Pendapatan dan Biaya
BITHUT	Ministry of Forestry regional office for inventory and mapping	Balai Inventarisasi dan Perpetaan Hutan (sekarang BPKH)
BPKH	Ministry of Forestry regional office for inventory and mapping (Previously BPKH)	Balai Pemantapan Kawasan Hutan
BPP	Office of Women Empowerment	Biro Pemberdayaan Perempuan
BPTP	Agricultural Technology Assessment Agency	Balai Pengkajian Technologi Pertanian,
CD	Community Development	Pemberdayaan Masyarakat
CBFiM	Community based Fire Management	Pengelolaan Kebakaran Berbasis Masyarakat
Dephut	Ministry of Forestry	Departemen Kehutanan R.I.
Dinkes	Health Services	Dinas Kesehatan,
Dishutbun,	Forestry and Plantation Service	Dinas Kehutanan dan Perkebunan
Disperindag	Industrial and Trade Service	Dinas Perindustrian dan Perdagangan
Distan	Agricultural Service	Dinas Pertanian
Ds	Village	Desa
DPKH	Directorate of Forest Fire Management	Direktorat Pengendalian Kebakaran Hutan
EC	European Commission	Komisi Uni Eropa
EIA	Environmental Impact Assessment	Analisis dampak Lingkungan
ENSO	El Nino Southern Oscillation	
EU	European Union	Uni Eropa
EUR	Euro	Euro
FA	Financing Agreement	Kesepakatan Pendanaan
FFEWS	Forest Fire Early Warning System	Sistem Peringatan Dini Kebakaran Hutan
FLB	Forest Liaison Bureau	Biro Kehutanan
FM	Fire Management	Pengendalian Kebakaran
GIS	Geographical Information System	Sistem Informasi Geografis
GoI	Government of Indonesia	Pemerintah Indonesia
GPS	Global Positioning System	Sistem Pemposisi Global
GRP	Gender Resource Person	
GTZ	German Technical Co-operation Society	Badan Kerjasama Teknis Jerman
HET	Household Economic Training	Pelatihan Ekonomi Rumah Tangga (ERT)
HTI	Timber Plantation	Hutan Tanaman Industri
IDR	Indonesian Rupiah	
ICA	Weather and Fire Info Bulletin	Info Cuaca dan Api
IGA	Income Generating Activity	Kegiatan Peningkatan Pendapatan
IPA	Initial Plan of Activities	Rencana Kerja awal
IPB	Bogor Agriculture Institute	Institute Pertanian Bogor
IRRI	International Rice Research Institute	Lembaga Penelitian Padi Internasional
IMT	Impact Monitoring Team	Tim Monitoring Dampak
INPRES	President Instruction	Instruksi Presiden
ITTO	International Tropical Timber Organization	Organisasi Hutan Tropis Internasional
JICA	Japan International Co-operation Agency	Badan Kerjasama Internasional Jepang
Kab	District	Kabupaten
Kab BA	District of Banyuasin	Kabupaten Banyuasin

Kab MUBA	District of Musi Banyuasin	Kabupaten Musi Banyuasin
Kab OKI	District of Ogan Komering Ilir	Kabupaten Ogan Komering Ilir
KADES	Village Head	Kepala Desa
Kec	Sub District	Kecamatan
Lk	Male	Laki-laki
LSM	Non-Governmental Organisation	Lembaga Swadaya Masyarakat
LUP	Landuse Planning	Perencanaan Tata Guna Lahan
MoF	Ministry of Forestry	Departemen Kehutanan
MoU	Memorandum of Understanding	Memorandum Kesepahaman
MSF	Multi Stakeholder Forum	Forum Multipihak
NGO	Non-Governmental Organisation	Organisasi Non Pemerintahan (LSM)
OECD/DAC	Organization for Economic Cooperation & Development/Development Assistance Committee	
OWP	Overall Work Plan	Rencana Kerja Keseluruhan
P3LD		Perencanaan Participatif Penatagunaan Lahan Desa
PCC	Project Co-ordination Committee	Komite Koordinasi Proyek
PEMDA	Local Government	Pemerintah Daerah
PERPU	Regulation in Lieu of Law	Peraturan Pemerintah Pengganti Undang-Undang
PKK	Family Welfare Programme	Program Kesejahteraan Keluarga
PMU	Project Management Unit	Unit Pengelola Proyek
PPM	Project Planning Matrix	Matrix Perencanaan Proyek
Pr	Female	Perempuan
PSC	Project Steering Committee	Komite Pengendali Proyek
PSW	Pusat Studi Wanita	Women Study Center
RMU	Rice Milling Unit	Unit Penggilingan Padi
RS	Remote Sensing	Penginderaan Jauh
SAAK	Fire Threat Analysis	Sistem Analisa Ancaman Kebakaran
SIKLAH	Forest and Land Fire Information System	Sistem Informasi Kebakaran Lahan dan Hutan
SISKe	Fire Spatial Information System	Sistem Informasi Spasial Kebakaran
SPBK	Fire Danger Rating System	Sistem Peringkat Bahaya Kebakaran
SPOT	Satellite Pour l'Observation de la Terre	
SSFFMP	South Sumatra Forest Fire Management Project	
Sukakeswan	Paramedic Livestock Volunteer	Sukarelawan Kesehatan Hewan
TA	Technical Assistant	Asisten teknis
ToT	Training of Trainers	Pelatihan untuk Pelatih
UNSRI	University of Sriwijaya, Palembang	Universitas Sriwijaya Palembang
VCO	Virgin Coconut Oil	
WG	Working Group	Kelompok Kerja
WSC	Women Study Center	Pusat Studi Wanita

Glossary

Sonor	*Traditional rice cultivation method used in South Sumatra in swamp areas affected by prolonged dry spells. Farmers wait until the vegetation is dry and then burn the area sowing rice directly afterwards without any further land preparation. Formerly this method could be used effectively every 2-3 years with a prolonged dry season occurring to let the vegetation dry sufficiently to allow burning.*
Lebak Lebung	*Natural pools or land depressions in swamp areas. Water and fish naturally accumulate in these pools during dry spells as the surrounding swamp areas dry out. Local residents regularly harvest these natural pools during the dry season. In order to access them they burn the surrounding vegetation.*
Keramba	*Fish cages made of wood and bamboo used for breeding fresh-water fish in rivers and streams.*
Saprodi	*Packages of supporting materials for agricultural productions such as seeds, fertilizers, insecticides, herbicides.*

1. GENERAL OVERVIEW

1.1 Introduction

Land clearing with the use of fire was, and still is, a common practice by smallholder plantations using slash and burn practice for dry-land agriculture, *sonor* (rice planting taking place in dried up swamps during prolonged drought), and the *lebak lebung* practice (fishing in swamp areas during dry season).

A study conducted by Bappenas (1999), showed almost 10 million ha were burnt throughout Indonesia during 1997/1998. Fires cost the country around 10 billion US $ of economic losses plus an intangible loss of biodiversity. There is also significant damage to agriculture and soils, a substantial loss within commercial forests and plantation assets, and last but not least heavy costs from air pollution, in particular from haze and smoke.

Difficulties in controlling land and forest fires in Indonesia, highlight the limits of any fire management system. It is almost impossible to control hundreds of fire spots simultaneously. Based on the aforementioned understanding and situation, the most important measure in fire management is prevention, particularly by securing participation and giving active roles to rural communities and related stakeholders.

Many research results discovered that the underlying causes of land and forest fires in Indonesia were low education and low incomes of rural people. People have not many alternatives but to use fire as a simple, cheap, efficient and a fast method for land clearing. Another unfortunate condition is that abandoned forest concessions and abandoned areas are invaded by shrubs and alang-alang (*Imperata cilindrica*) making these areas fire-prone with sufficient fuel for fires.

To address these conditions, SSFFMP developed a policy and strategy promoting sustainable natural resource management that includes effective fire management through the so called **Community Based Fire Management** (CBFiM).

Community Based Fire Management could be simply defined as approaches to manage forest and land fire occurrences by local communities. They become the key actors and play an important role in the prevention and the initial control of every potential fire occurrences.

To strengthen capabilities and competence of local communities within CBFiM approaches, interventions from stakeholders are needed. For example through raising awareness, providing income generating activity alternatives, training on appropriate technologies, strengthening institutional capacities, developing motivation and encouraging active participation of local communities and with the support from all related stakeholders.

In order to implement the SSFFMP community based fire management strategy and approach at all levels and in particular at village level, seven major project components were active. Namely: Training and Public Awareness; Fire and Geographic information Systems; Fire Management; Land Use Planning; Community Development (CD); Gender Integration; and NGO Strengthening. (Annex No. 1)

This report covers the project's community development component activities.

Thirteen field level examples were established at priority villages in three selected districts of South Sumatra. The activities consist of income generating activity alternatives, establishing and strengthening farmer groups' institutions, as well as facilitating and providing training on appropriate cultivation / processing technologies. The impact of these CD activities in combination with other project components could serve as a model to reduce land and forest fires in South Sumatra and Indonesia.

1.2 Development Context

The community development component is an integral part of the project's strategy to contribute to the overall goal and to achieve the project purpose as stipulated in the Financing Memorandum between the Government of Indonesia and the European Commission.

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).

Overall goal: *"Establish a model for the rational and sustainable management of the country's land and forest resources"; and*

Project purpose: *"Aid and facilitate the establishment of a coordinated system of fire management at province, district and 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".*

Thirteen villages from three fire-prone districts of South Sumatra were selected by District Multi Stakeholder Forums (MSF) as priority target villages for project interventions. Field examples on income generating activities, particularly on agriculture and home industries, were established in collaboration with stakeholders from university, district, province, national as well as international related agencies, with involvement from the private sector and NGOs.

Agencies involved included BPTP of South Sumatra, Province and District level Services (Agriculture, Livestock, Fishery, Trade, Investment and Industrial Services), the Rubber Research Institute of Sembawa, the Paddy Research Institute of Sukamandi, Gajah Mada University and Sriwijaya University. The International Rice Research Institute from Los Banos in the Philippines has also been an active participant in a number of activities.

SSFFMP also successfully collaborated with the private sector, including the Sinar Mas Group Timber Estate, RMU Owners, and local workshops.

NGOs were important partners, among them members of the South Sumatra NGO Consortium, namely Yayasan Kemasda, LPH-PEM, OWA, WBH and others.

Cooperation between the project and the NGOs focused on strengthening the Farmer Groups institutional capacity for self reliance and sustainability. This was achieved through training, comparative studies, internships and regular coaching with facilitation.

1.2.1 The Community Development Module Process and respective yearly Roadmaps

Community development is a long-term process as it involves introducing changes in rural communities. Hence, it was advisable for the project to design a type of flowchart for the process of interventions and to develop yearly roadmaps for the activities. For monitoring and evaluation milestones and indicators were formulated.

The basic CD module process is shown below:

1. Socio-economic surveys at 30 villages of 3 priority districts (2003):
   a. Surveyors:
      i. TA & NGOs
      ii. IPB
   b. Survey substance:
      i. General information
      ii. Natural resources available
      iii. Existing livelihoods
      iv. Village problems encountered
      v. Inventory income generating activities proposals
2. Gender Role Assessment (2003 & 2004)
3. Priority villages selection by MSF meeting at 3 priority districts
4. Village meetings
   a. Facilitators: SSFFMP, WG IV (CD) of MSF, BPTP, NGOs
   b. Participants: Village formal & informal leaders, villagers
   c. Agenda :
      i. Gender responsive farmer group identification/formation
      ii. Agreed CD activity selection
5. BPTP brief survey on existing technology and soil sample collection related to selected CD activities.
6. CD Module proposal prepared by BPTP
7. CD Workshop for stakeholders inputs
8. Stakeholders and BPTP refine CD Modules based on CD Workshop recommendations
9. CD Module implementation
   a. Farmer group meetings
   b. Procurements
   c. CD Training
      i. On selected CD activity management
      ii. On management & group dynamics
      iii. Volunteer extension workers
      iv. Volunteer livestock healthcare
   d. Continues facilitation and monitoring
      i. Facilitation on technical aspects by BPTP and related technical government agencies
      ii. Facilitation on farmer group institution strengthening by NGOs
      iii. Participative M&E meeting at village level
10. Annual CD Workshop for review and recommendations
11. Upscaling / part assistance for new groups
12. Impact Monitoring

Below are the thirteen villages where the CD module process and the roadmaps were applied. The selected type of alternative income generating activities is also given:

1. Desa Ulak Kemang, OKI: *Fishery in Karamba System*
2. Desa Ujung Tanjung OKI: *Cattle Breeding/Fattening*
3. Desa Riding OKI: *Water Buffalo Fattening*
4. Desa Simpang Tiga, OKI: *Peat Swamp Paddy Cultivation*
5. Desa Upang, Banyuasin: *Husk Fuelled Paddy Drier, RMU*
6. Desa Muara Telang, Banyuasin: *Tidal Paddy Cultivation and Agriculture Machinery Provider*
7. Desa Talang Lubuk, Banyuasin: *Integrated Coconut Processing*
8. Desa Perajen, Banyuasin: *Tidal Paddy Cultivation*
9. Desa Pagar Desa, MUBA: *Rice Milling Unit and Goat Breeding*
10. Desa Bayat Ilir, MUBA: *Integrated Farming System between Cattle, Horticulture and Goat Breeding*
11. Desa Kali Berau, MUBA: *Hi-breed Clone Rubber Plantation*
12. Desa Mangsang, MUBA: *Cattle Breeding/Fattening*
13. Desa Muara Medak, MUBA: *Dryland Paddy Cultivation and RMU*

In order to break the task down for implementation, roadmaps for each project component were made, implemented and regularly monitored. The roadmaps for the community development component from 2003 until 2007 being implemented were as follows:

Output: *Establish 13 field-level examples of participatory multi-stakeholder land and resource use planning, including effective fire management and gender aspects, in selected villages*

Roadmaps and milestones:

2003:

- Socio-economic survey at 30 selected villages in 3 priority districts. The data gathered concerned:
  - ~ General village information
  - ~ Available natural resources
  - ~ Pattern of existing livelihoods
  - ~ Assessment of village problems and issues
  - ~ Inventory of income generating activities proposed
- Participatory & Rapid Rural Appraisal to 13 selected/target villages by Project, BPTP, NGO, IPB

2004:

In collaboration with stakeholders establish 6 (six) field examples of income generating activities

- CD Socialization Workshop “Community Income Increases, Natural Resource are Sustainable”
- CD Activity proposals preparation

- CD Activities implementation at 6 selected villages of priority districts
- Training on implementation and technology of selected CD activities
- Comparative studies on integrated farming systems for selected village communities
- Facilitation, monitoring and evaluation during implementation

2005:

In collaboration with stakeholders to establish 5 (five) field examples, to continue and maintain 6 CD modules established before

- Village meetings on activity selection, existing technology and needs assessment for Project intervention in5 (five) new selected villages
- Activities selected proposals preparation
- Maintenance of CD Income Generating Activities established in 2004
- Procurements
- Implementation of selected CD activities at 5 new villages
- Training on technology and management of selected CD activities
- CD Workshop for participative monitoring and evaluation

2006:

In collaboration with stakeholders to consolidate, maintain and prepare for independent management of 13 existing CD income generating activities established through 2004-2005, in reducing fire occurrences in South Sumatra.

- Comparative study & training
    - ~ Comparative study: to West Java and Banten Province on relevant agricultural technologies conducted in target villages, sharing/exchange ideas/experiences on success stories of farming and livestock management
    - ~ Training on:
        - > Selected Agricultural Module Techniques/Cultivation Management
        - > Management and Farmer Group Dynamics for self reliance
        - > Compost Production using agricultural waste and livestock manure
        - > Livestock's Health Care for farmers
        - > Integrated, participative and sustainable planning for farmer group activities
    - ~ Training for selected local farmers as candidates for local/volunteer agriculture extension workers
- CD Workshops for evaluation/improvement of the Community Development approach and impact of Income Generating Activities in reducing fire occurrences.

2007:

In collaboration with stakeholders to consolidate preparation for independent management of existing 13 income generating activities of CD component, established through 2004-2006, in reducing fire occurrences in South Sumatra

- Comparative study, training and farmers' field school
    - ~ Comparative study & Internship: For farmer groups and extension

workers to sample villages and other sites in Sumatra to see success stories and exchange ideas

~ Training:
  > Additional training on selected agricultural module techniques
  > Conclude training of trainers for local/volunteer agriculture extension workers and NGOs

~ Farmers' field school: Consolidate the farmers' field school on paddy post harvest management in collaboration with IRRI, BB Padi Sukamandi, BB Mekanisasi Pertanian Serpong and BPTP Palembang.

- Farmer groups institutional strengthening:
  ~ Conclude capacity building on farmer groups management, participative planning, book keeping and cost benefit analysis to reach self reliance and sustainability.
- Concluding village monitoring and evaluation meetings on the developing gender sensitive CD programme and handing over facilitation to stakeholders including NGOs.

Required inputs:

- Socio-economic surveys, PRA and RRA
- Workshops and meetings
- International/National short term experts
- Training
- Facilitations
- Service providers

Training on RMU at Ds MUara Medak

1.3 Objectives and Expected Results of Community Development in Integrated Fire Management and for SSFFMP

The overall 5 year objective of the Project should achieve 5 specific results presented in the Financing Memorandum.

- *Result 1: Institutional conditions created to allow the implementation of effective fire management.*
- *Result 2: Stakeholders enable to organize and apply effective fire management mechanisms in their area.*
- *Result 3: Capacities created and initiatives supported to bring land and natural resources under sustainable management*
- *Result 4: Government and non-government organizations supported to establish systems to monitor the impact of improved fire management on the environment and people (gender-issues, livelihood, income, etc.), and the results of the work placed in the public domain.*
- *Result 5: Government agencies (at the national, provincial and district levels) and civil society supported to shape policies and organizational structures in such a way as to promote sustainable natural resources management that includes effective fire management.*

Specific objectives of community development component as described in the annual work plans was "*Establish field-level examples at 13 villages, that include gender aspects, of participatory multi-stakeholder land and resource use planning including effective fire management, in selected villages.*"

Expected results of community development component are:

1. ***Output:*** *13 field examples at 13 villages established*
2. ***Direct benefit****: Production and farmers' income increased, farmers' institutions strengthened*
3. ***Long term benefit****: Reduced occurrences of land- and forest-fires in priority villages, sustainable natural resource management enhanced*

Paddy cultivation at a former Sonor area near the village of Simpang Tiga.

2 RESULTS AND ACHIEVEMENTS

2.1 Main Achievements to Date

Guided by the SSFFMP Overall and Annual Work Plans, the CD Module Process and the yearly Roadmaps, the Community Development Component developed 13 field-level examples of income generating activities as part of the project's strategy in reducing fire occurrences at selected villages.

The Community Development Component is emphasizing the formation and strengthening of the farmer groups' institutions and promoting/supporting appropriate cultivation techniques, including post harvest management and familiarity to the appropriate agricultural machineries. Main activities conducted were training, workshops, comparative studies as well as internships for sustainability and self reliance for the farmer groups. Appropriate agricultural technology familiarization and training was facilitated by experts from Balai Pengkajian Teknologi Pertanian (BPTP), Balai Besar Padi Sukamandi, the International Rice Research Institute (IRRI), UNSRI, UGM and other related agencies. Farmer groups institutional strengthening and regular meetings were facilitated by NGOs. Additional to this a number of short-term experts contracted by SSFFMP assisted.

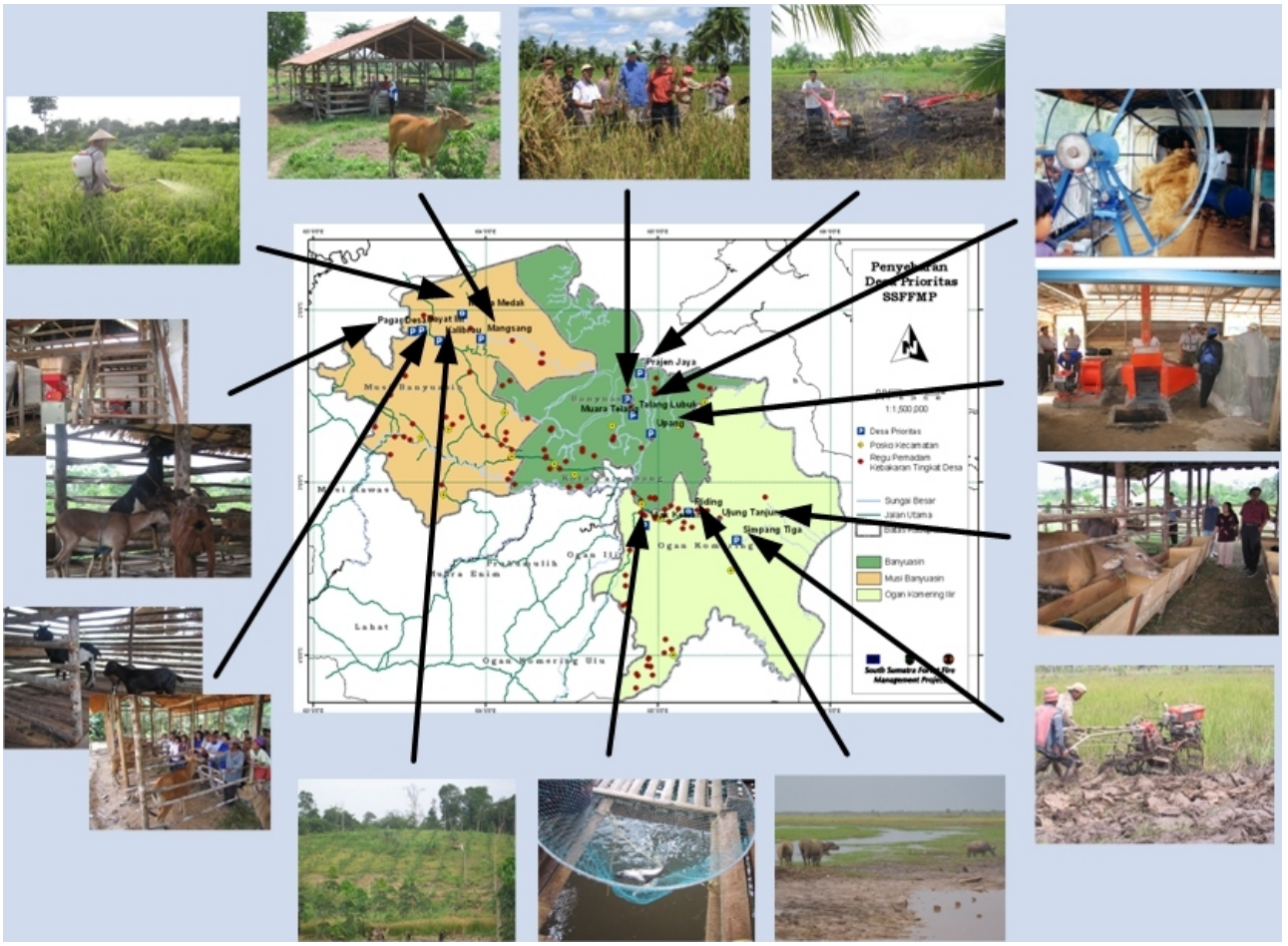
A detailed description of the thirteen field examples of income generating activities (IGA) supported by Project at 13 selected villages is given below

2.1.1. '*Bali'* Cattle Breeding at Desa Mangsang, Kab MUBA

The aim of this field example is to introduce cattle breeding businesses as alternative income generating activities to reduce slash and burn practices.

Mangsang village's forest and smallholder plantations were severely damaged by the 1997 fire disaster, presumably ignited through slash and burn practices amid the El Nino's affected dry season.

Project intervention was started in 2004 with one farmer group consisting of 8 farmers including spouses. The activity was conducted on a sharing basis, farmers provided land for cattle stalls and available local materials such as wood and labour while the project provided other materials. Eight Bali breed cattle, one unit grass chopper and medicines were provided by the project as initial capital, and followed by training on cattle fattening/breeding management at the end of 2004. In 2005 the project provided more cattle for 2 new farmer groups at different hamlets, totaling the provision of cattle as initial capital to 22 heads. Farmer groups were facilitated at 3 dusun/hamlets of Mangsang Village: "*Sumber Rejeki"* farmer group at Dusun Mangsang, "*Urip Mulyo"* farmer group at Dusun KTGR and "*Sumber Urip"* farmer group at Dusun Hijrah Mukti. Revolving agreements on the benefits of cattle breeding were signed between the project and group members, witnessed by the village head, the district livestock agency and NGOs. This agreement is important to clarify the rights and/or obligations of member farmers on the cattle being tended and to ensure that new member farmers can join the activity and receive cattle, also for the future for fair development and sustainability. By the middle of 2007 the cattle



herd had increased to 38 head, being tended by 3 farmer groups of 56 farmer members including spouses. Based on the signed revolving agreements, 12 calves were handed over to new member farmers.

Gradually these project's activities were handed over to the BPP Kali Berau as the competent government agency on livestock management at sub district of Bayung Lincir. To further support the farmer groups, facilitated by project, they have been training and recruiting volunteers from local farmers consisting of 5 livestock paramedics, 1 village motivator, 2 agriculture extension workers.

2.1.2. Hybrid clone rubber plantation at Desa Kali Berau, Kab MUBA

The aim of this field example is to introduce hybrid clone rubber plantations along with an intercropping cultivation scheme as an alternative income generating activity instead of using low production, local varieties of rubber seedlings and shifting cultivation practices. One farmer group "*Usaha Makmur"* of 7 members with spouses was established in 2004. The farmer group conducted 7 ha land preparations, built 1 unit field meeting hut, fencing with available local materials and with their own labour. The project provided high yielding varieties of rubber seedlings bought from "Sembawa" Rubber Research Station of South Sumatra, rubber clones of IR-39 (1,800 seedlings) and PB-260 (2,400 seedlings), along with fertilizers and herbicides. Training on rubber plantation technology was conducted at the end of 2004. In the first year, rubber plantations was intercropped with local

paddy varieties and other horticulture plantations, harvesting 2 tons of paddy per ha. In 2005/2006 the project provided the farmer group with high yielding dry land paddy varieties of *Situ bagendit, Situ patenggang* and *Towuti*, bought from Sukamandi Rice Research Institute. Despite a moderate attack of insects and paddy diseases, farmers still enjoyed better dry land paddy harvests with results of 3 tons per ha.

Up to the middle of 2007 rubber plantations are found to have satisfactory growth.

Revolving agreements on the benefits of hi-breed clone rubber plantations between the project and group members were just signed in May 2007, and witnessed by the village head, district extension officer and NGOs. This agreement is important to clarify the rights and/or obligations of member farmers, on rubber plantations being tended, and to ensure that new member farmers can join the activity and receive hi-breed clone seedlings, and also for the future for fair development and sustainability.

To further support and facilitate the farmer groups, they have been training and recruiting volunteers from local farmers consisting of 1 village motivator and 2 agriculture extension workers.

2.1.3. Integrated Farming Activities with Cattle and Goat Breeding at Desa Bayat Ilir, Kab MUBA.

The aim of this field example are income generating activities through the improvement of traditional farming systems which were previously dependent on only horticulture crops, into an integrated farming system with cattle and goat breeding. At sub-village II of the Bayat Ilir village, community development activities are being conducted particularly for women under the facilitation of the Gender specialist. This consists of 16 *Bali* cattle and 0.5 Ha of horticulture cultivation, using livestock manure for compost production. The activity involves 14 female farmer members including their spouses. Goat breeding with 86 goats as initial capital was chosen by farmers at sub-village I of the Bayat Ilir village. In respect to the goat breeding, at the beginning it encountered problems with high mortality due to various causes. Livestock management training for farmer members was conducted in 2005, while 5 livestock healthcare volunteer paramedics (Sukakeswan) were twice recruited in collaboration with Heifer International Indonesia, an America based NGO specializing in cattle. By the middle of 2007 there were 27 goats left in good condition being tended by 11 farmer group members.

Revolving agreements on the benefits of cattle as well as goat breeding were signed between the project and group members, witnessed by the village head, the district livestock officer and NGOs. This agreement is important to clarify the rights and/or obligations of member farmers of the cattle and goat being tended and to ensure that new member farmers can join the activity and receive cattle and/or goats, and for the future in fair development and sustainability.

To further support the farmer groups at those two sub-villages, they have been training and recruiting volunteers from local farmers consisting of 4 livestock paramedics, 4 village motivators and 4 agriculture extension workers.

2.1.4. Rice Milling Unit and Goat Breeding at Desa Pagar Desa, Kab MUBA

The aim of this field example is to generate additional income for farmers through the establishment of rice milling units (RMU) and goat breeding. Pagar Desa village was a deserted village in the outer most area of MUBA district. The previous main income of villagers was through logging and rubber plantations. During the 1997 forest fire disaster, a large portion of the forest and almost all the village rubber plantations were burned. This disaster changed people's source of living in the village. Logging was not available anymore and new rubber plantations needed years before they could be tapped. For daily needs people now relied on paddy cultivation. Paddy processing costs was another story, as people had to transport paddy, 3-4 hours with water transportation to the nearest rice milling unit available.

Project intervention was started in 2005 by establishing the farmer group "*Tunas Muda"* of 10 farmer members with the project providing 1 unit RMU and 25 parent goats as initial capital for the village. RMU existence has proved substantial in reducing transportation costs for paddy processing and triggering other village economic activities. It's existence also drives and motivates farmers to more intensify paddy cultivation in the village. In 2006 the project provided farmers with high yielding paddy varieties of *Ciherang* and fertilizers for 5 ha field samples. Goat breeding was particularly for women and involved 7 women farmer members. Training for RMU operators and goat breeding management was conducted in 2005; and training for 2 livestock healthcare volunteer paramedics (Sukakeswan) conducted in collaboration with Heifer International Indonesia. In the initial stage high mortalities of goats was found due to various causes, but by the middle of 2007 there were 20 goats left in good health .

RMU business and traditional paddy farming activities are growing with satisfying development.

To further facilitate the farmer groups, they have been training and recruiting volunteers from local farmers consisting of 2 village motivators and 2 agriculture extension workers.

Meeting with Agriculture Extension Worker

2.1.5. Dryland Paddy Cultivation and Rice Milling at Desa Muara Medak, Kab MUBA

The aim of this activity is to introduce Hi breed dry-land paddy cultivation with controlled burning as an alternative for income generating activities to reduce shifting cultivation practices. Muara Medak village was severely affected by the 1997 forest fire disaster. Previously the main living of locals was logging activities, but due to degraded forests, people's source of living then shifted to rubber and paddy cultivation.

Project intervention was just started in 2006 with the establishment of 2 farmer groups, namely *ìSaga Mandiriî* and *ìGotong Royongî* consisting of 42 farmer members. Income generating activities were selected by participatory meetings. Farmer groups agreed to establish dry-land paddy cultivation with controlled burning methods, practicing/using skills on fire control management gained from training conducted by the project's fire management specialists. Training on appropriate paddy cultivation technology was conducted, followed by provisions of high yielding paddy varieties and fertilizers/insecticides. Paddy varieties bought from BB Padi Sukamandi, were *Situ bagendit, Situ patenggang* and *Towuti* for the establishment of 57 Ha high yielding varieties dry land paddy cultivation demonstration plots. Despite moderate attacks of insects and paddy diseases, farmers still could harvest their paddy better than the traditional slash and burn methods used before. Rice Milling Unit (RMU) consists of Huller, Polisher with separate "Yanmar" engines plus scale and necessary tools was provided in the middle of 2006, followed by training on RMU operators and its management.

Farmer group facilitations on institutional strengthening, such as why farmer groups are essential, group management and dynamics, book keeping etc, was conducted by NGOs hired by the project on monthly basis.

There have been training and recruiting volunteers from 2 hamlet local farmers consisting of 2 village motivators and 2 agriculture extension workers.

Training for Rice Mill Operators

2.1.6. Post harvest management with the introduction of a husk fueled paddy drier & RMU at Desa Upang, Kab Banyuasin.

The Upang village's main source of living is from tidal/sea tide influenced peat swamp paddy cultivation. Harvesting time was always in the rainy season. Farmers' main problems were paddy drying, which traditionally depended on solar availability or high costs of kerosene fueled drier. In 2004, in collaboration with BB Padi Sukamandi and BPTP of South Sumatra, for the first time in the region, SSFFMP introduced a box dryer fueled with rice husk for the drying of paddy. The capacity of the dryer is about 3,5 tonnes of wet paddy. The dryer was installed at Upang village at the place where there was already a rice milling unit. The dryer is supposed to be operated by farmer group *ìJaya Bersamaî* established by the project with 42 farmer members. After some time after its installation, other rice millers in the surrounding areas were also interested in this technology and they started to install box dryers at their own cost. In no time, local manufacturers also started to manufacture parts of dryers like fans and ovens. To date there are already more than 25 box dryers of the same type installed in the villages. Millers have tried to change the design of dryers to some extent and it's capacity has also increased from 3,5 tonnes up to 10 tonnes.

Husk-Fuelled Paddy Drier exhibited at the National Appropriate Technology Exhibition in Palembang 2006

Although there are already so many dryers installed, performance of these devices is yet unknown. No one has conducted experiments to check their technical as well as economic and social performance except the first dryer installed by SSFFMP. Realizing this, a Nepalese student studying at a German university was asked to conduct field research to evaluate the paddy dryers in this region as part of his master thesis. He started his work here at the end of February 2007. He went to the field at Muliasari, Upang Ceria and Upang villages during the month of April to conduct his experiments. In total eight different tests with three different dryers and four different fans and engines were conducted. These dryers had drying capacities ranging from 3 to 10 tonnes of paddy. Each experiment had taken between 11 to 23 hours only to dry paddy, except other preparatory works and organizational works. The experiment work is being carried out by mutual cooperation between the project, BPTP and IRRI. So far, the data from the experiments has been collected but analysis and necessary calculations are yet to be done.

Dr. Gummert Martin, Post Harvest Specialist of IRRI in Philippines came to Indonesia 3 times providing hands-on training about post harvest management and the introduction of super/hermetic polybags for grain/paddy (seed) storage and systems of drying in the field. Mr Sutrisno from BB Padi Sukamandi, researcher and designer of the introduced prototype paddy dryer came to Palembang several times for disseminations and local workshop training.

Paddy Post harvest management , Hermetic Storage Training

By the middle of 2007 and by the farmers' own initiatives, farmer groups increased to 6 farmer groups consisting of 139 farmer members. The farmer groups strengthening was facilitated by NGOs hired by the project which was conducted monthly.

By using paddy dryers, farmers could save labour days for sun drying, provide farmers more spare time for land preparation and cultivate paddy twice a year. Intensified land preparation will suppress and reduce biomass as potential fuel for forest/land fires. To further support and facilitate the farmer groups, there has been training and recruiting volunteers from local farmers consisting of 2 village motivators and 4 agriculture extension workers.

2.1.7. Optimization of tidal paddy cultivation & agri machinery provider at Desa Muara telang, Kab Banyuasin.

The project started with facilitating the establishment of 2 farmer groups *ìParit Gantungî* and *ìTani Karyaî* consisting of 27 farmer members. From participatory meetings farmer groups proposed upgrading traditional tidal/sea-tide influenced peat swamp paddy cultivation technology as part of income generating activities at the village. Formerly the traditional paddy cultivation method of sonor gave average paddy production of around 1.5-2.5 tons per ha.

To start, in 2005 the project provided 2 hand tractors, 3 threshers units, 2 sprayer units, a package of *ìsaprodiî*, training on appropriate paddy cultivation technology, and the establishment of 30 Ha field demonstration plots. High yielding paddy varieties were introduced, that were bought from BB Padi Sukamandi, namely *Fatmawati, Ciherang* and *Widas* varieties. In 2006, other farmers of the village became interested in joining on their own initiative, to form 6 groups consisting of 108 farmer members, establishing 212 ha of paddy cultivation. Additional

assistance of hi yielding paddy varieties came from the Agriculture Service of Banyuasin District.

Paddy harvest ceremonies of the demonstration plots were officially attended by Bupati of Banyuasin District, with paddy production of 3.8 to 4.0 tons per ha.

Paddy Harvest Ceremony at Ds Muara Telang

With the farmer groups' economic institutions, strengthening has established an agricultural machinery provider business unit and micro finance in the form of *saprodi* with assistance of initial capital from the project of IDR 12 million in 2006. NGO facilitations for farmer groups institutional strengthening, self reliance and sustainability, are being conducted monthly. They have been training and recruiting volunteers from local farmers consisting of 1 village motivator and 2 agriculture extension workers.

2.1.8. Integrated Coconut Processing at Desa Talang Lubuk, Kab Banyuasin.

Talang Lubuk is the village coconut plantation centre in South Sumatra. Usually farmers just sell raw coconut in the form of *ìKopraî*, a semi-dried coconut meat, with low prices. Through participatory meetings, farmers proposed technical assistance on integrated processing of coconut products to diversify and increase a farmer's income.

Started in 2004, the project has facilitated the establishment of 3 farmer groups, namely *ìNyiurî, ìMayangî* and *ìArang Tempurungî* consisting of 10 farmer members each. Farmer members are predominately female.

Training about Virgin Coconut Oil (VCO) was facilitated by an UGM expert in 2005 on coconut fibre processing techniques as well as coconut based handicrafts. The project provided integrated coconut processing units consisting of 1 coconut fibre processing unit, 1 set of virgin coconut oil utensils, 2 coconut shell charcoal drum units and a 5 ton small boat for transportation. A village marketing house was established and used in several exhibition events to promote the products. Some

marketing problems were encountered. Monthly facilitations were conducted by NGO.

They have been training and recruiting volunteers from local farmers consisting of 2 village motivators and 2 agriculture extension workers.

2.1.9. Optimization of tidal paddy cultivation & agro machinery provider at Desa Prajen Jaya, Kab Banyuasin.

The aim of this field example is to raise farmer's income through upgrading traditional tidal/sea-tide influenced peat swamp paddy cultivation and the establishment of Village Agricultural Machinery Provider Unit. The project started with facilitating the establishment of 2 farmer groups *ìKurnia Abadiî* with 20 farmer members and *ìBone Jayaî* consisting of 23 farmer members. From participatory meetings farmer groups proposed upgrading traditional tidal/sea-tide influenced peat swamp paddy cultivation technology as part of income generating activities for the village. Formerly the traditional paddy cultivation method of sonor just provided an average paddy production of around 1.5 - 2.0 tons per ha.

Training for Tractor Operators

To start, in 2005 the project provided 2 hand tractors, 2 power thresher units, 4 sprayer units, and a package of *ìsaprodiî*.

Training on proper paddy cultivation technology were conducted with the establishment of a 40 Ha field demonstration plot. High yielding paddy varieties were introduced, bought from BB Padi Sukamandi, namely *Ciherang, Cigeulis, PB 42* and *Diah Suci* varieties. For farmer's institutional strengthening, training on farmer group management and dynamics, simple bookkeeping and monthly regular meetings were conducted by NGOs hired by the project.

To further support and facilitate the farmer groups, facilitated by the project, they have been training and recruited volunteers from local farmers consisting of 2 village motivators and 2 agriculture extension workers.

2.1.10. Fishery in Karamba System at Desa Ulak Kemang, Kab OKI

The aim of this field example is to reduce sonor as well as nglebung/fishing practices that use fire during the dry season, by nursing *Patin* fish in the Karamba system as an alternative income generating activity. The project started in 2004 by establishing *ìKarya Baktiî* farmers group of 24 member farmers. The project provided 22 fish baskets *(karamba)*, 24,000 Patin baby fish and 1 set of small pellet processing machinery. By the middle of 2007 the activities had grown to 28 karambas. Average fish production grew from 31 Kg per basket in 2004 (bad season) to 95 Kg per basket/karamba in 2006. Benefit cost ratios was found 1,89. The farmers also tried to diversify fish species with *Bawal, Toman* and *Ikan Mas* to find out what fish adapted best to provide the highest income for the farmers.

In May 2007, to further motivate farmer groups on fisheries, the project organized a 5 day comparative study and internship program to *ìHarmonisî* farmer group, which is considered a success as a *Patin* fishpond combined with pellet production at the Tangkit Baru village in Jambi province. On farmer's institutional strengthening, training on farmer group management and dynamics, simple bookkeeping and monthly regular meetings were conducted by NGOs hired by Project. They have been training and recruiting volunteers from local farmers consisting of 2 village motivators and 1 agriculture extension worker.

2.1.11. Water Buffalo Fattening at Desa Riding, Kab OKI

The aim of this field example is to introduce water buffalo fattening as an alternative income generating activity to reduce slash and burn as well as *sonor* practices. Starting in the middle of 2005 the buffalo farmer group consisted of 10 member farmers The project provided 8 water buffalos and stalls followed by training on buffalo fattening management. The buffalos provided by the project were officially handed over to the farmers group by the Bupati of OKI district in a wildfire control preparedness occasion.

By the middle of 2007, the livestock grew rapidly to 13 buffalos, and the farmer group grew as well involving 20 member farmers. A buffalo fattening benefit revolving agreement between the project and the farmers group, to ensure that in the future all member farmers could share the benefits from the activity, was signed in February 2007. As part of the wildfire prevention measures, the village of Riding has conserved an area of around 3000 ha for buffalo rearing/grazing that was formerly used for *sonor*. On farmer's institutional strengthening, training on farmer group management and group dynamics, simple bookkeeping and monthly regular meetings were conducted by NGOs hired by Pthe project.

To further support and facilitate the farmer groups that are facilitated by the project, they have been training and recruiting volunteers from local farmers consisting of 1 livestock healthcare paramedics, 1 village motivator and 2 agriculture extension workers.

2.1.12. Cattle Breeding at Desa Ujung Tanjung. Kab OKI

The aim of this field example is to introduce cattle businesses as an alternative for income generating activities and to reduce slash and burn as well as *sonor* practices. Started in 2005, the project established a farmers group *ìSanggau Permaiî* consisting of 16 member farmers including spouses, followed by the provision of 8 *ìBaliî* cattle to be fattened.

Cattle stalls were built on a sharing scheme with the farmers group providing local materials such as wood and labour. The project provided other materials such as the roof and supporting tools. Training on cattle fattening management was conducted in collaboration with BPTP and OKI district livestock services. Due to a lack of government veterinary officers in the village, two local volunteer livestock healthcare paramedics were trained in collaboration with Heifer International Indonesia, an America based NGO on cattle management strengthening.

Starting in 2006 the farmers decided to shift from fattening to the breeding scheme, as they thought the new scheme would give more security on benefit/ownership of the livestock raised, using the cattle as labour for transportation and farming. A cattle breeding benefits revolving agreement, as a tool to ensure that in the future all member farmers could share the benefits from the income generating activity, was witnessed by the Ujung Tanjung village head and the OKI district livestock service, and was signed between the project and the farmers group in February 2007. For farmer's institutional strengthening, training on farmer group management and group dynamics, simple bookkeeping and monthly regular meeting were conducted by NGOs hired by the project. They have been training and recruiting volunteers from local farmers, besides aforementioned livestock healthcare paramedics, also 1 village motivator and 2 agriculture extension workers.

Training on Livestock Healthcare

2.1.13 Optimization of peatland swamp paddy cultivation management at Desa Simpang Tiga, Kab OKI

The aim of this field example is to raise farmer's income through upgrading/shifting from traditional *sonor* paddy cultivation systems, to the more intensive paddy cultivation techniques in the villages. Starting in 2006, the project established 2 farmer groups *ìSinar Taniî* of 31 member farmers and *ìCahaya Taniî* of 30 member farmers. In collaboration with OKI district agricultural service and Sinar Mas Group timber estate, it was planned to establish 80 Ha of proper paddy cultivation demonstration plots, in the previously *sonor* area of the village. Contributions from the stakeholders consisted of SSFFMP providing 2 hand tractors, 1 power thresher unit and 1 package of supporting fertilizers; OKI district agricultural service and Sinar Mas Group timber estate company contributed *ìCiherangî* high yielding varieties of paddy seeds and herbicides respectively.

Training on hand tractors, and paddy cultivation management were conducted in collaboration with BPTP, UNSRI and OKI district agricultural service during August 2006.

Due to a lack of government extension officers in the village, two local volunteer agricultural extension workers was sent to a training course in collaboration with BPTP and the district agricultural service.

The celebration of the first harvest of the paddy demonstration plot in the formerly *sonor* area of Simpang Tiga village was officially attended and opened by Bupati of OKI district. The average result of paddy harvested from sample plots was 4 tons per ha.

In 2007 it is planned to increase the paddy demonstration plots, with the same treatment, from 80 ha to 120 ha. For farmer's institutional strengthening, training on farmer group management and group dynamics, simple bookkeeping and monthly regular meetings were conducted by NGOs hired by Project.

2.2 Impact Monitoring

The impact definition(s) from the Organization for Economic Cooperation and Development/ Development Assistance Committee (OECD/DAC) can be summarized as follows:

- In the OECD/DAC definitions, the terms *outcomes* and *impacts* are differentiated in terms of their timeframe i.e. as *medium-term* and *long-term* results
- In contrast, the terms *direct benefit* and *indirect benefit* refer to the (positive) results before and beyond the attribution gap.
- In practice, however, it is clear that *direct benefits* occur *before indirect benefits*.
- Hence, the *direct benefit will be at the outcome level* and the *indirect benefit at the impact level*

To pick up the quantitative and qualitative general picture of the Project's impact resulting from its interventions since 2003, SSFFMP conducted surveys and collected data and information. For example questionnaires were distributed to the participants of CD workshops of 3 different districts between August-September 2006.

Participants of the CD Workshops were:

1. MSF and Working Groups representatives
2. CD related Institutions at Provincial and Districts Level
3. Sub Districts Offices
4. Village Motivators & Local Volunteer Extension Workers Group
5. Farmer Groups & Women Groups
6. University representatives
7. Other Related Institutions
8. SSFFMP project staff and counterparts

Districts	Date of Monitoring	Number of participants		
Banyuasin	24 August 2006	40	26	14
OKI	16 September 2006	32	16	16
MUBA	20 September 2006	28	18	10
Grand Total		100	60	40
Percentage		100 %	60 %	40 %

Methods for collecting data:

Data was gathered from answered questionnaires distributed to participants. The questionnaires consisted of 1 (one) open question and 7 (seven) closed questions.

Open question:

1. *According to your knowledge and information available, how would you describe the impacts of SSFFMP interventions (from 2003 till now 2006)?*

Closed questions:

1. *In your opinion is there any major change since 2003 till 2006 in the SSFFMP supported villages?*
2. *In your opinion did the income of groups supported by SSFFMP increase?*
3. *Did the new technology introduced by SSFFMP increase efficiency and increase farmer incomes?*
4. *Since the start of implementation of activities by SSFFMP in priority villages, is there any village progress/improvement ?*
5. *Did capacity and the competence of group members increase (facilitation, book keeping, etc)*
6. *Are women more actively involved in village activities?*
7. *Since SSFFMP implemented activities in priority villages, did hotspot/land and forest fires decrease?*

Table of results gathered from answers of the questionnairse distributed to CD workshop participants from 3 districts of Banyuasin, OKI and MUBA.

Question No.	Answer	Districts			Average (%)
		Banyuasin	OKI	MUBA	
1	yes	97	94	96	95. 7
	no	3	0	4	2. 3
	abstain	0	6	0	2.0
2	yes	92	87	92	90.3
	no	5	0	4	3.0
	abstain	3	13	4	6. 7
3	yes	92	90	96	92. 7
	no	5	0	0	1. 7
	abstain	3	10	4	5. 7
4	yes	95	94	96	95. 0
	no	5	0	4	3.0
	abstain	0	6	0	2.0
5	yes	92	75	85	84.0
	no	8	9	4	7.0
	abstain	0	16	11	9.0
6	yes	72	97	74	81.0
	no	25	3	22	16. 7
	abstain	3	0	4	2. 3
7	yes		84	74	79.0
	no		16	15	15.5
	abstain		0	11	5.5

The conclusion was in general very positive, that is to say SSFFMP's intervention lead to an increase of farmer income and was reducing fire occurrences.

From another impact monitoring meeting conducted in March 2006, stakeholders came up with conclusions, that direct benefits and indirect benefits gained by farmer groups from CD activities can be described as:

Direct benefits:

a. Farmer groups institutions at villages enhanced
b. Obtaining higher "farm gate prices" c. Increased agricultural production and income
d. Addtional income from diversification
e. Reduction of post harvest losses

Long term and indirect benefits:

a. Reduced incidence/occurrences of land- and forest-fires in priority villages *(in combination with other components)*
b. Improved management of natural resources
c. Agriculture becomes more sustainable *(in combination with other components)*
d. Increased prosperity level *(in combination with other components)*

At present SSFFMP is in the process to further consolidate and deliberate results on the following impact indicators for the CD component:

1. Reduced incidents of fires (in combination with other Project components)
2. Income of supported group increased

Long term and indirect benefits to be gained from Project intervention at selected villages are shown in the matrix below:

Village	Long term & Indirect benefits
Ds Ulak Kemang	1. Enhanced fishery management and purun handicraft home industry as an alternative to income generating activities compared to *nglebung* and *sonor* with burning practices. 2. Conservation of peat swamp area surrounding villages as habitat of *purun*, local name of a commonly found swamp weed, as raw material for *purun* based handicrafts home industry
Ds Riding	1. Enhanced water buffalo rearing management as an alternative to income generating activities rather than *sonor* practices. 2. Peat swamp area of Riding village, formerly used for *sonor* cultivation with burning, conserved for water buffalo grazing area with no burning
Ds Ujung Tanjung	1. Enhanced cattle breeding management as an alternative to income generating activities compared to/rather than *sonor* practices. 2. Farmer group institutions established would enable farmers to gain further support/access to government's agencies and/or other supportive stakeholders.
Ds Simpang Tiga	1. People are changing from *sonor* with burning practices to proper paddy cultivation with no burning in peat swamp areas.
Ds Upang	1. Husk-fuelled paddy dryer technology has proved and can solve farmer's problems on paddy drying during rainy harvest season. 2. Post harvest management enhanced, farmers' farm gate prices increased 3. Farmers motivated to utilize and cultivate bare lands and intensify paddy cultivation. 4. Optimized utilization of village bare lands, with thick biomass, would reduce potential fuel for land and forest fires.
Ds Muara Telang	1. Trade off between proper paddy cultivation technologies with higher yielding paddy varieties compared to low yield, environment unfriendly *sonor* traditional paddy cultivation. 2. Farmer group institutions established enabled farmers to gain further support/access to government's agencies and/or other supportive stakeholders.
Ds Talang Lubuk	1. Diversification and Integrated coconut processing technology, handicrafts know how would give rooms and alternatives of income generating activities. 2. These available alternatives could change easy habits of just selling raw coconut and conduct *sonor* practices with burning.
Ds Prajen Jaya	1. Proper paddy cultivation technology with higher yield in peat swamp area would change locals' perspective on traditional low yield *sonor* paddy cultivation with burning. 2. Farmer group institutions established would enable farmers to gain further support/access to government agencies and/or other supportive stakeholders.

Ds Muara Medak	1. Proper paddy cultivation technology with higher yield results and RMU existence would motivate locals to utilize and cultivate bare lands intensively rather than clearing new lands to conduct slash and burn practices. 2. Farmer group institutions established enabled farmers to gain further support/access to government agencies and/or other supportive stakeholders.
Ds Kali Berau	1. Hi-breed rubber clone seedlings with high yield results commonly used by smallholders would increase farmer's income per unit of plantation. 2. High yield of hi-breed rubber clone seedlings and intensified smallholders rubber plantations would reduce the desire to conduct slash and burn practices.
Ds Pagar Desa	1. Livestock management (goat), proper paddy cultivation technology and RMU existence, would motivate locals to cultivate bare lands intensively rather than to conduct slash and burn practices.
Ds Bayat Ilir	1. Proper livestock management (cattle & goat), horticulture cultivation technology with higher yield, would motivate locals to cultivate bare lands intensively rather than conduct slash and burn practices. 2. Farmer group institutions established would enable farmers to gain further support/access to government agencies and/or other supportive stakeholders.
Ds Mangsang	1. Proper livestock management (cattle breeding) with high returns as an alternative to income generating activities, compared to slash and burn practices, would contributes wildfire prevention. 2. Revolving agreements mechanism between Project and farmer groups implemented would ensure the spreading and sustainability of the activities. 3. Farmer group institutions established, enables farmers to gain further support/access to government agencies and/or other supportive stakeholders

Chart of impact chain for community development component presented attached as Annex No.2

CD Workshop for Participatory Monitoring & Evaluation

2.3 Summary and Conclusions

1. The underlying causes of land and forest fires in Indonesia are linked to low education and the low incomes of rural people. Local people have hardly any alternatives than to use fire as a simple, cheap, efficient and fast method of land clearing.

2. Difficulties in controlling land and forest fires in Indonesia highlight the limits of any fire management system. At present it is impossible to control the existing thousands of fire spots simultaneously. Thus, the most important measure to be taken in fire management is prevention and initial control in case of incident occurrences. It should be handled by rural communities and related stakeholders.

3. SSFFMP strategy is to promote sustainable natural resource management that includes effective fire management through approaches of enhancing farmer group's institutions and promoting alternative income generating activities. Local communities are in the centre and key actors in prevention and initial control of every potential fire occurrence.

4. Thirteen field level module examples on farmer groups institutional strengthening and alternative income generating activities were established at 13 selected villages in 3 districts in South Sumatra.

5. On farmer groups institutional strengthening, building farmer group capacity for self reliance and sustainability, CD component has facilitated the formation of farmer groups, facilitated regular monthly meetings, provided training on organizational management and group dynamics, simple bookkeeping, proposal writing, etc. To further sustain farmer group's institutional strengthening, the project provides training for trainers for village motivators, local volunteer agricultural extension workers and livestock healthcare paramedics.

Monthly Regular Meeting Facilitated by NGO

6. SSFFMP was successful to introduce alternative income generating activities. Major interventions and supported consisted of initial capital for farmer groups, procurement of light agricultural machineries (hand tractors, husk-fuelled driers, threshers, grass chopper, etc) and supporting production packages, such as high yielding seed/seedling varieties, fertilizer, insecticides, etc.

7. Technical training was conducted, ranging from the introduction of appropriate paddy cultivation and post harvest management, livestock and fisheries, as well as home industries technologies. Workshops, comparative studies and internships were supported to provide opportunities to share and exchange ideas/success stories of activities and broaden farmer group's perspectives and horizons.

8. Direct benefits gained by farmer groups from CD activities are:
    - Farmer groups institutions at villages enhanced
    - Obtaining higher "farm gate prices"
    - Increased agricultural production and income
    - Addtional income from diversification
    - Reduction of post harvest losses

9. Long term and indirect benefits from CD activities to be:
    - Reduced incidence/occurrences of land- and forest-fires in priority villages (in combination with other components)
    - Improved management of natural resources
    - Agriculture becomes more sustainable (in combination with other components)
    - Increased prosperity level (in combination with other components)

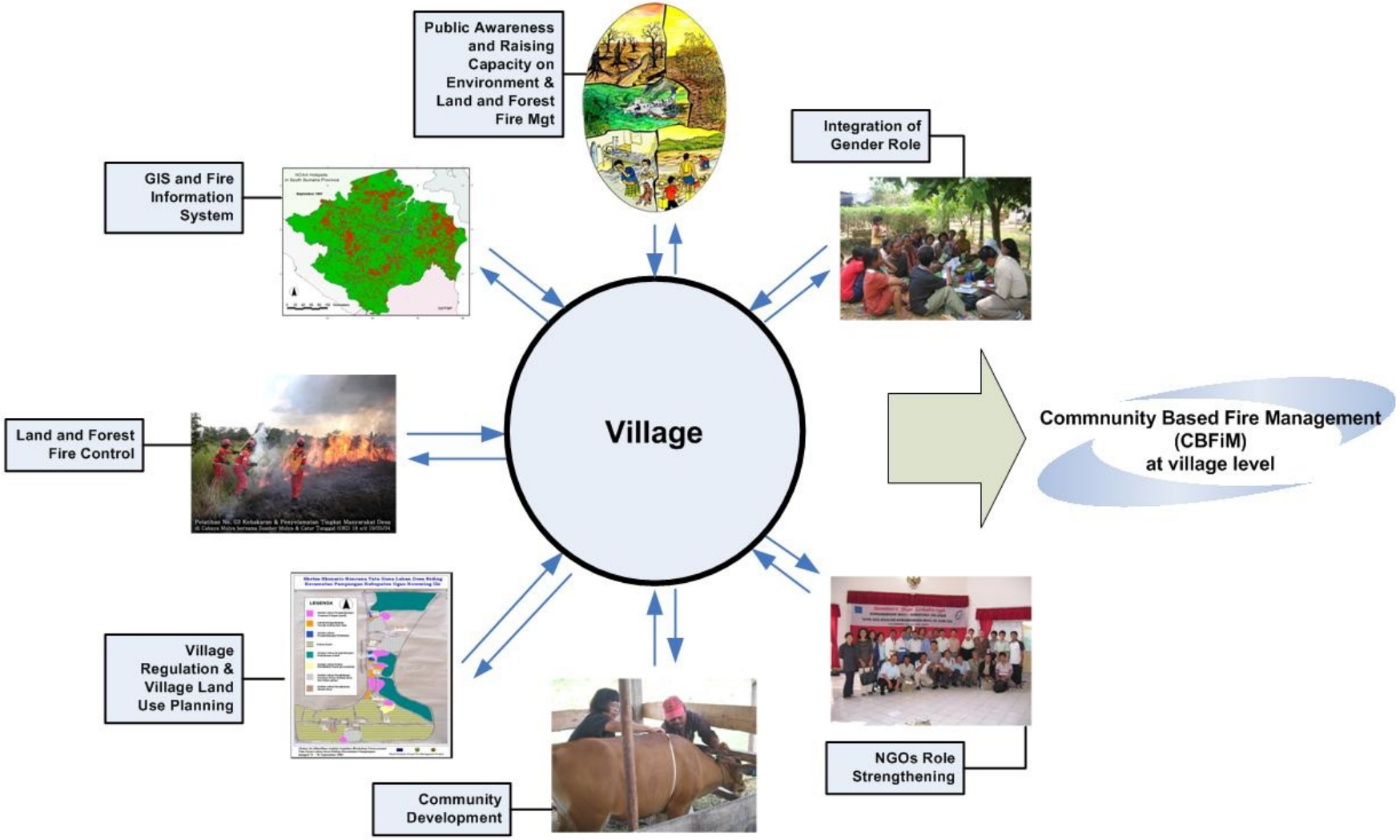
Causes for land and forest fires are men-made and are linked to low education and income of rural communities. Major other causes are existing land conflicts, weak law enforcement, the unfinished process of decentralization and a low presence of government institutions and poor public infrastructure.

However the CD component of SSFFMP has shown solutions to this problems and provided sustainable alternatives for rural communities. Thus the government and private sector and the civil society have by now proven examples which can be transferred and upscaled to larger numbers of villages and groups in South Sumatra and beyond. What is needed now is major commitment and substantially increased funds for large scale expansion.

3. ADDITIONAL INFORMATION AND ANNEXES

Annex 1

Development Strategy on
The Community Based Fire Management System (CBFiM)
at Village Level of South Sumatra Province



Impact chain for: Community Development component

Version from 29.3.06

Edited by Wardah Mas'ud & Axel Böhm using group work results from 21-22 March 2006

Annex 3

Available Community Development Reports and Documents

Writer/ Editor	Report/Document
Gabungan LSM SumSel	Survei Sosial Ekonomi pada 30 Desa di Kabupaten MUBA, OKI dan Banyuasin, 2003
Dr Subowo G. BPTP SumSel	Ringkasan Eksekutif Final Report 2004: Pemberdayaan Masyarakat di Sumatera Selatan
Sabaruddin, M. E Armanto UNSRI	Report: Workshop on Community Development "Community Income Increase, Natural Resource are Sustainable. Palembang, March 10-11, 2004
Dr. Erizal Sodikin, dkk-UNSRI	Final report 2005 - concept of integrated farming system: - trainings on integrated farming system - comparative study on integrated farming system - training modules of integrated farming system
Dr Subowo G. BPTP SumSel	Laporan Akhir 2005 Kegiatan Pemberdayaan Masyarakat South Sumatra Forest Fire Management Project. (With executive summary in English)
Dr Andy Mulyana & Dr A Muslim UNSRI	Prosiding Lokakarya Pemberdayaan Masyarakat: "Peningkatan Pendapatan Masyarakat sebagai Bagian Pencegahan Kebakaran Hutan dan Lahan di Sumatera Selatan" Palembang 28-29 June 2005
Gerald Hitzler	Industrial Extension: Evaluation of introduced agricultural equipment and support measures for increased local production and use of machines in South Sumatra (Fifth assignment, April-July 2006)
Rodolfo Giambelli	Assessment of SSFFMP community development approach and impacts of income generating activities in reducing fire occurrences in project priority villages. September 2006
Dr Subowo G. BPTP SumSel	Laporan akhir 2006: Pemberdayaan Masyarakat di propinsi Sumatera Selatan (with Execiutive Summary in English)
BPTP SumSel	Laporan Traveling Workshop Petani Kooperator Kegiatan Pemberdayaan Masyarakat SSFFMP-BPTP SumSel ke Balai-Balai Penelitian Komoditas Badan Litbang Pertanian, 5-10 Februari 2006
Heifer International Indonesia	Pelatihan Sukarelawan Kesehatan Hewan (Sukakeswan), Juli 2006
Eris Achyar, Budi Raharjo dan Djoko Setijono	Prosiding Lokakarya Pemberdayaan Masyarakat SSFFMP Kabupaten Banyuasin 2006: Keberlanjutan Peningkatan Pendapatan Masyarakat Berwawasan Gender sebagai bagian Pencegahan Kebakaran Hutan dan Lahan
Supaiman SP & Hartono SP, Dinas Pertanian SumSel	Laporan Hasil Pelatihan Untuk Pelatih bagi Petani Penyuluh Swakarsa, Sukakeswan dan LSM Pendamping, Februari 2007
Gerald Hitzler	Industrial Extension-Assignment March – April 2007 Consolidate introduced technologies in priority villages, in particular for drying rice using rice husk. Define final measures for increased efficiency and sustainability Finalize local production of fire fighting pumps in Indonesia for use with fire crews in South Sumatra

South Sumatra Forest Fire Management Project

SSFFMP

Summary Reports of Results and Achievements :

E1: OVERVIEW / SUMMARY

E2: FIRE INFORMATION SYSTEMS

E3: CAPACITY DEVELOPMENT & AWARENESS

E4: LAND USE PLANNING

E5: COMMUNITY DEVELOPMENT

E6: PREVENTION AND SUPPRESSION

E7: GENDER

E8: NGO PARTICIPATION

E9: IMPACT MONITORING

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