



SPOP: Sustainable Palm Oil Production



SPOP project

- Assessing the **sustainability** of oil palm production
 - Work package 1:
 - **Increasing knowledge** about the diverse oil palm cropping systems and their impacts
 - Developing science-based quantitative indicators for cropping systems' **sustainability**
 - Work package 2:
 - Providing method(s) to integrate the impacts of oil palm cropping systems at a **landscape level**
 - Simulation for **prospective oil palm spatial organizations**

Objectives of students' studies

- Raymond Nkongho (PhD): KKPA oil palm
 - Kabupaten Bungo (propinsi Jambi)
 - Kabupaten Pelalawan (Propinsi Riau)
- Soytavanh Mienmany (M): Prepared the PPA by conducting socio-economic and stakeholders analysis in Bungo
- Roxane Houvenaeghel (M): Analysis of people's perceptions of the sustainability of oil palm production in Bungo
- [Margot Moulin](#) (PhD): Modeling the spatial expansion of oil palm plantations and their impact on the environment: in Bungo and in Kabupaten Siak and Kampar (Propinsi Riau)



Participatory Prospective Analysis on oil palm development in Bungo district, Jambi province



By



Soytavanh Mienmany

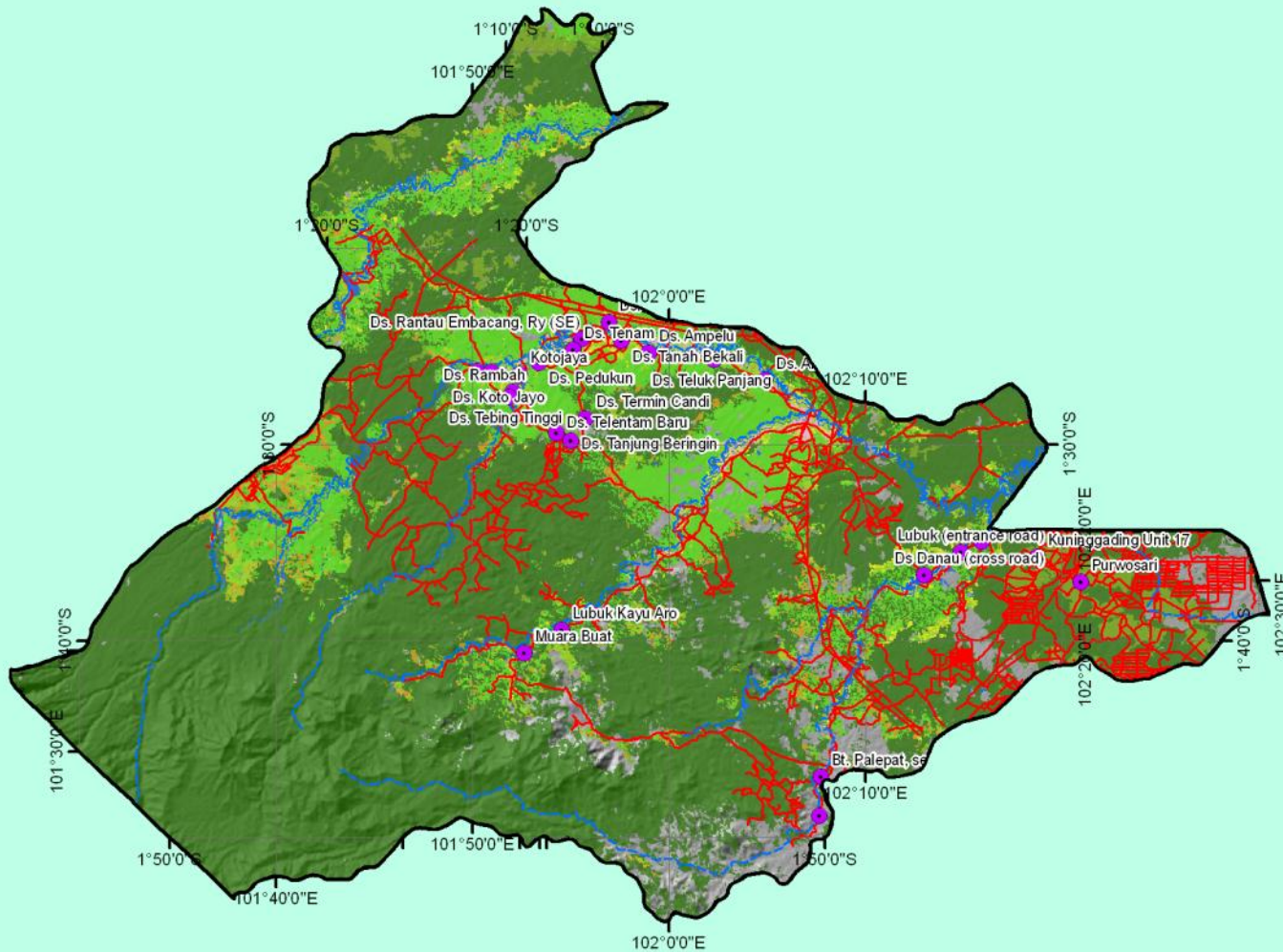
Supervisor: Laurène FEINTRENIE

Thesis tutor: Didier PILLOT

Outline

- Study area : Kabupaten Bungo, propinsi Jambi
- Preliminary surveys:
 - Socio-economic analysis
 - Stakeholder analysis
- Participatory Prospective Analysis (PPA: Laurene)

Land Cover Map 1973 of Bungo, Indonesia

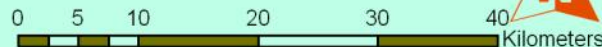


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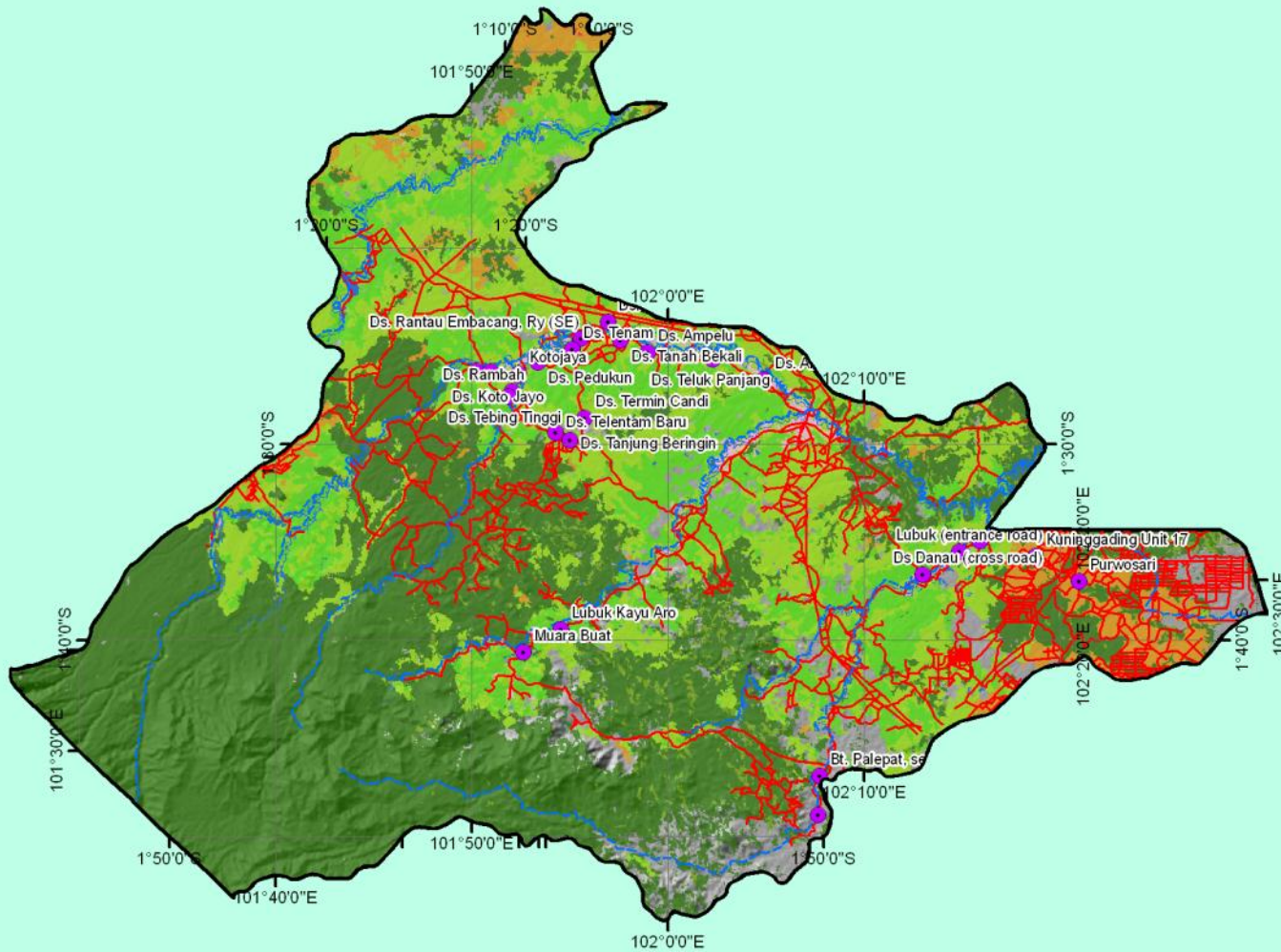
- Villages
- Road
- River
- Landscape mosaic AOI
- Land cover**
 - Dense forest
 - Degraded forest
 - Mixed tree
 - Tree monoculture
 - Shrub
 - Cropland
 - Settlement
 - Cloud
 - Water

Spatial Analysis Unit
World Agroforestry Centre
South East Asia Regional Programme
Bogor, Indonesia

Contact:
Andree Ekadinata (aekadinata@cgiar.org)
Sonya Dewi (sdewi@cgiar.org)



Land Cover Map 1988 of Bungo, Indonesia

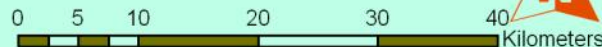


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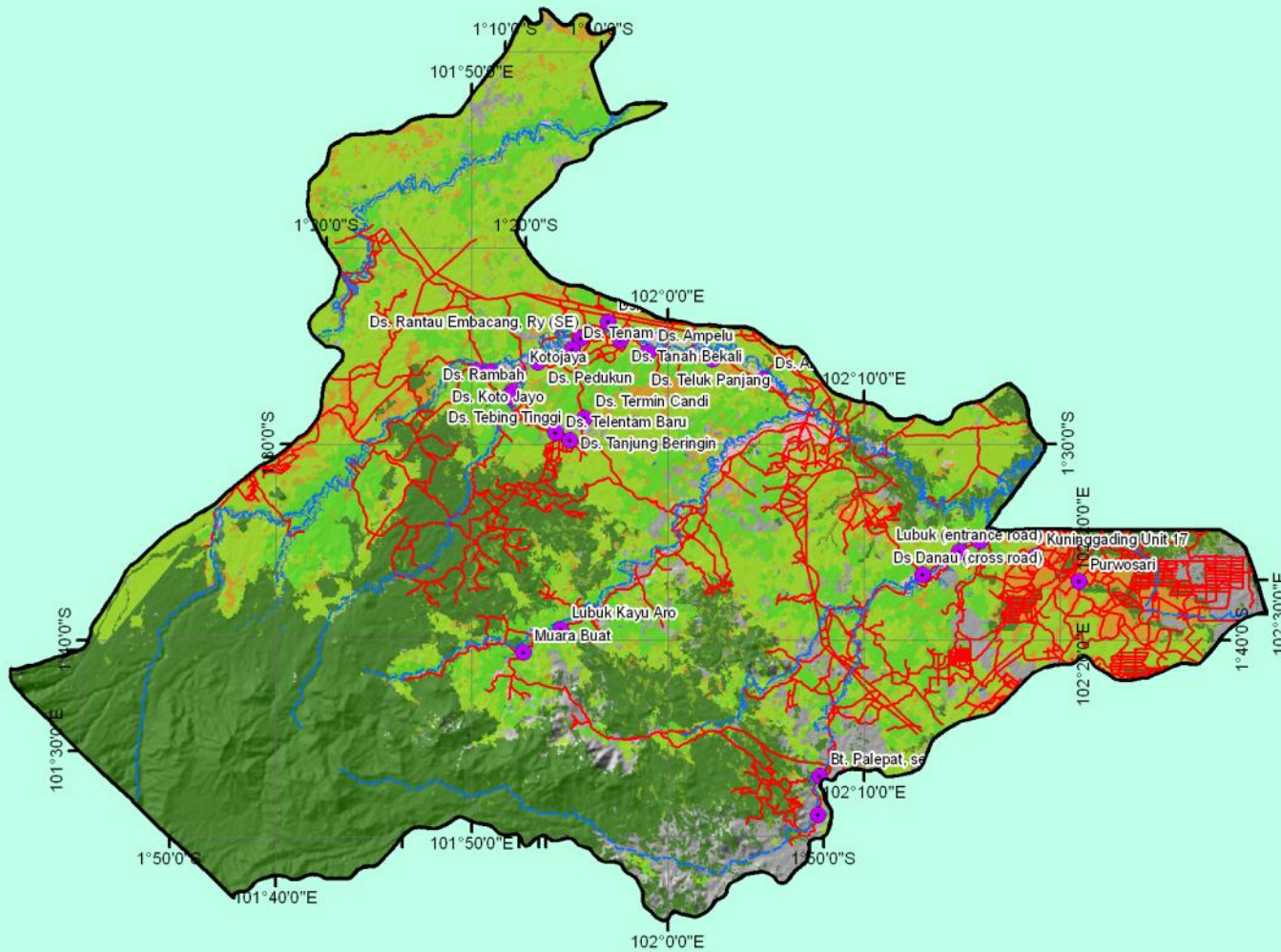
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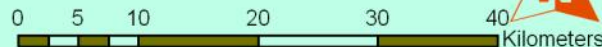


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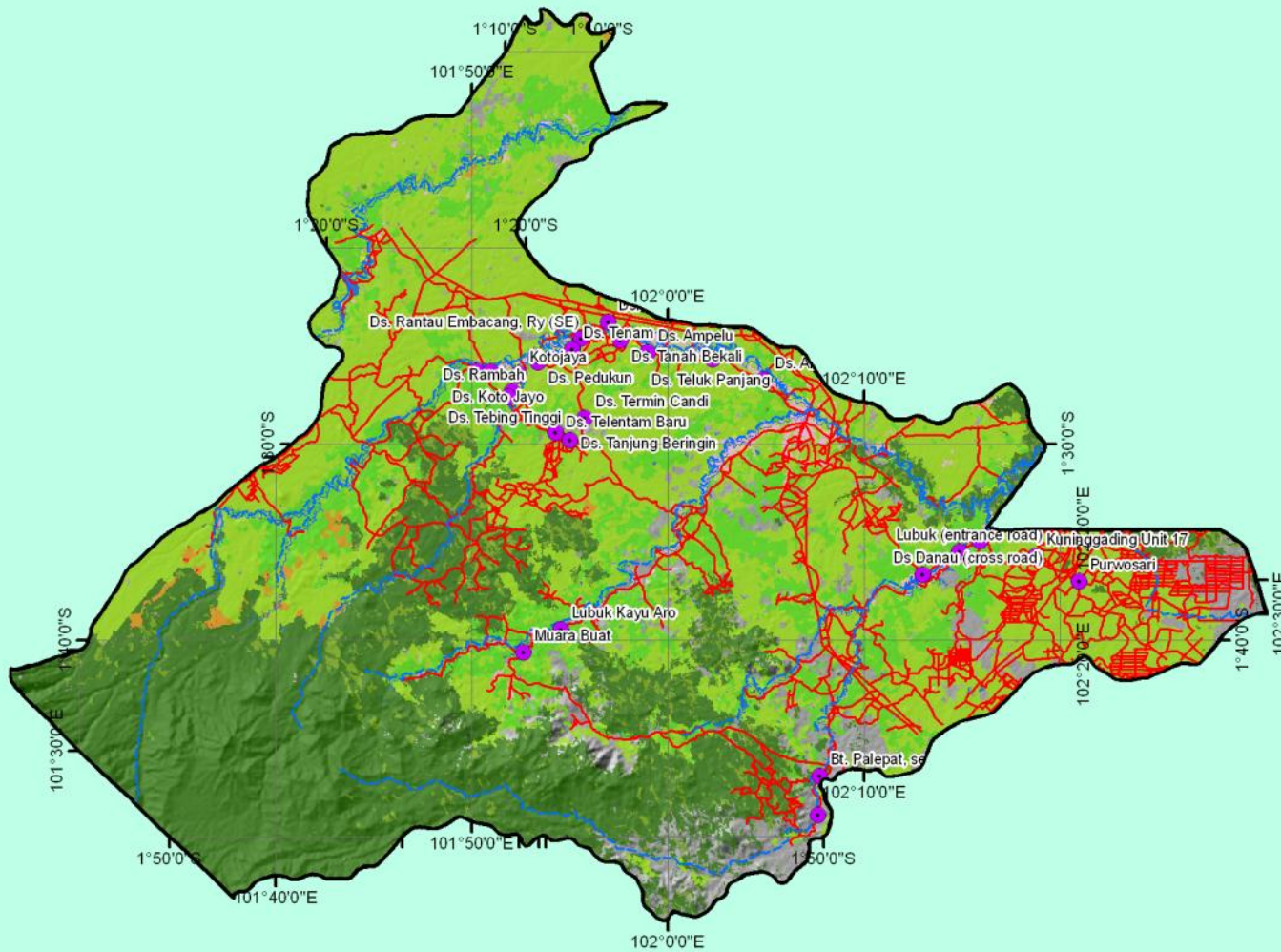
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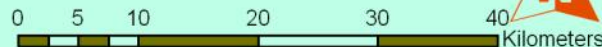


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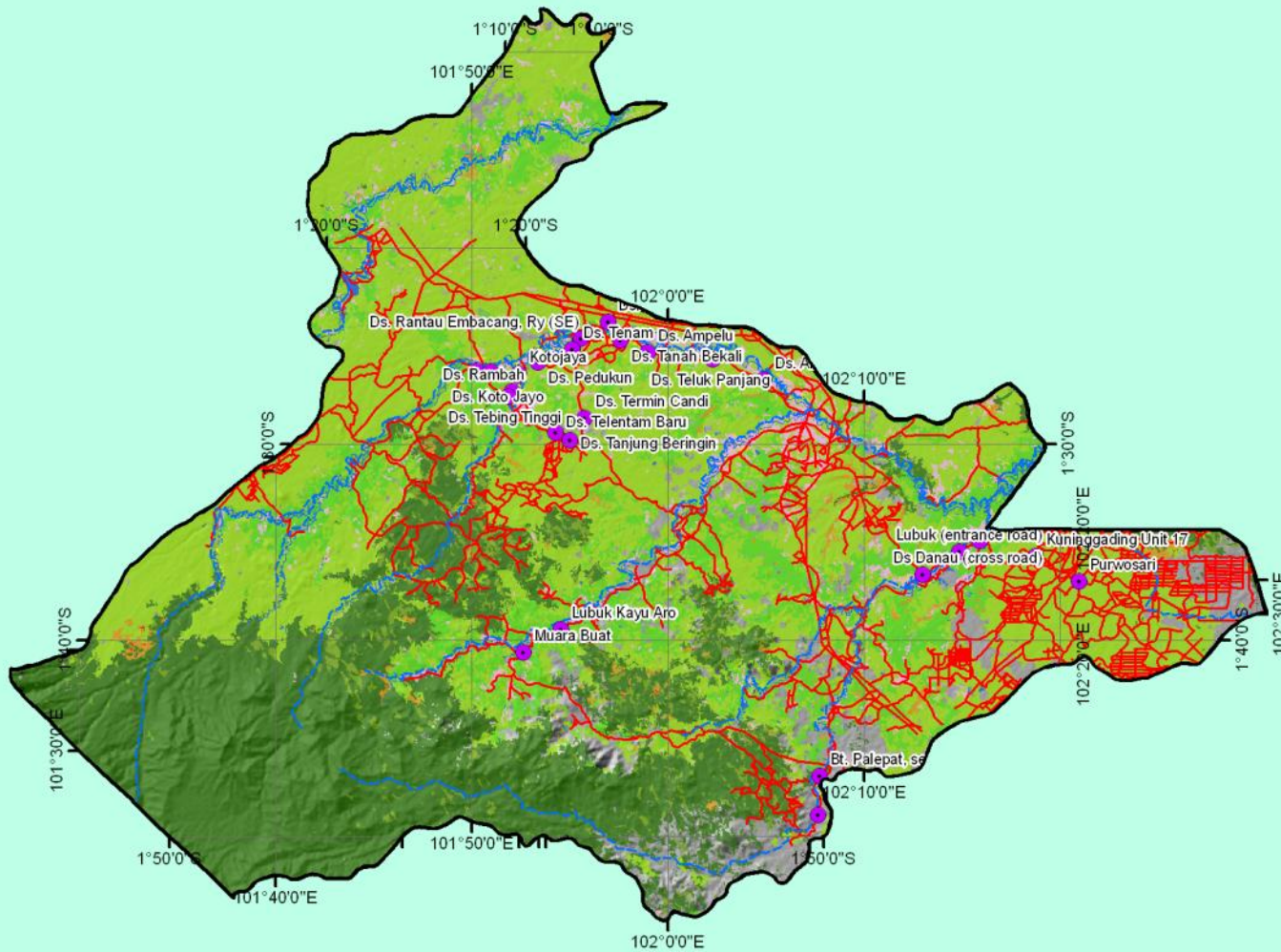
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Land Cover Map 2002 of Bungo, Indonesia

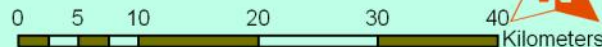


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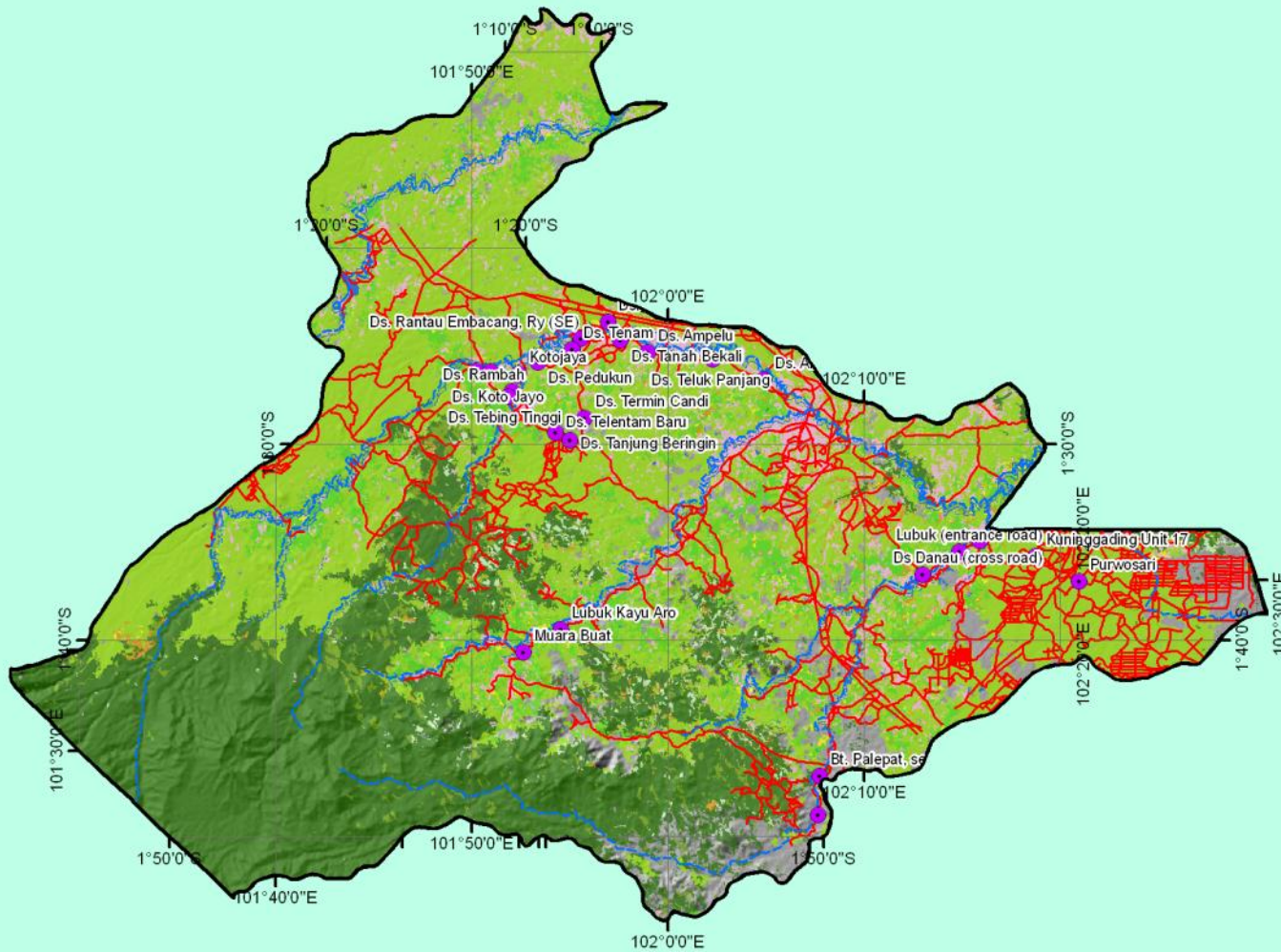
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Land Cover Map 2005 of Bungo, Indonesia

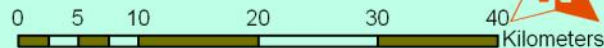


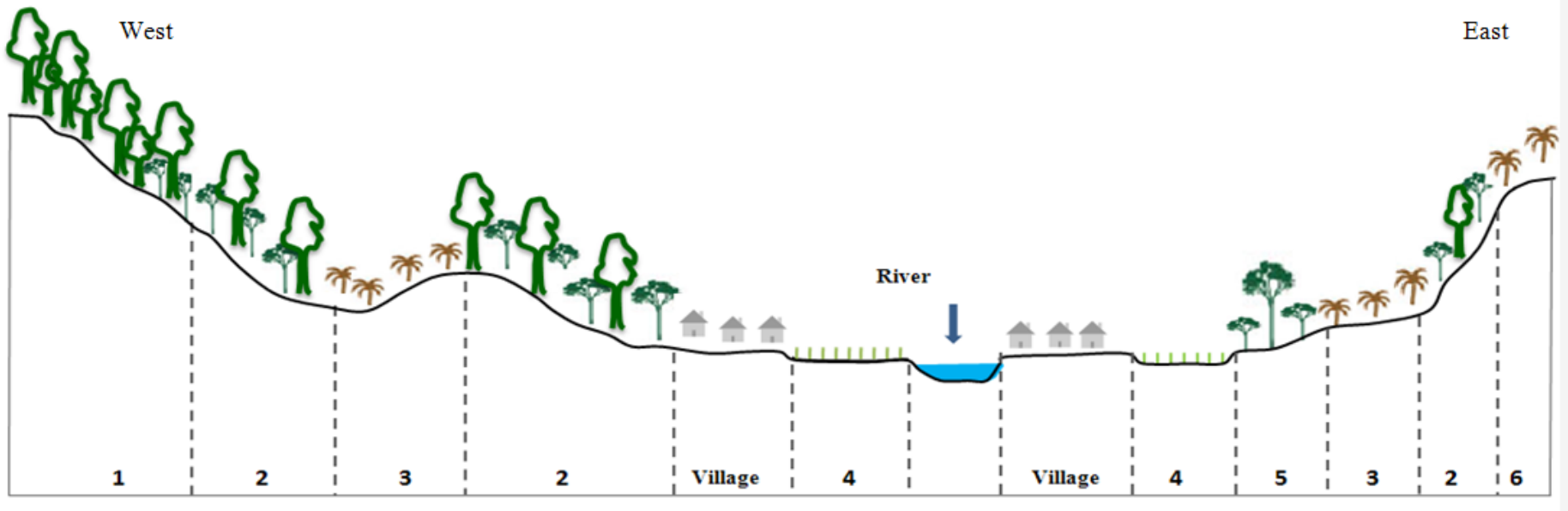
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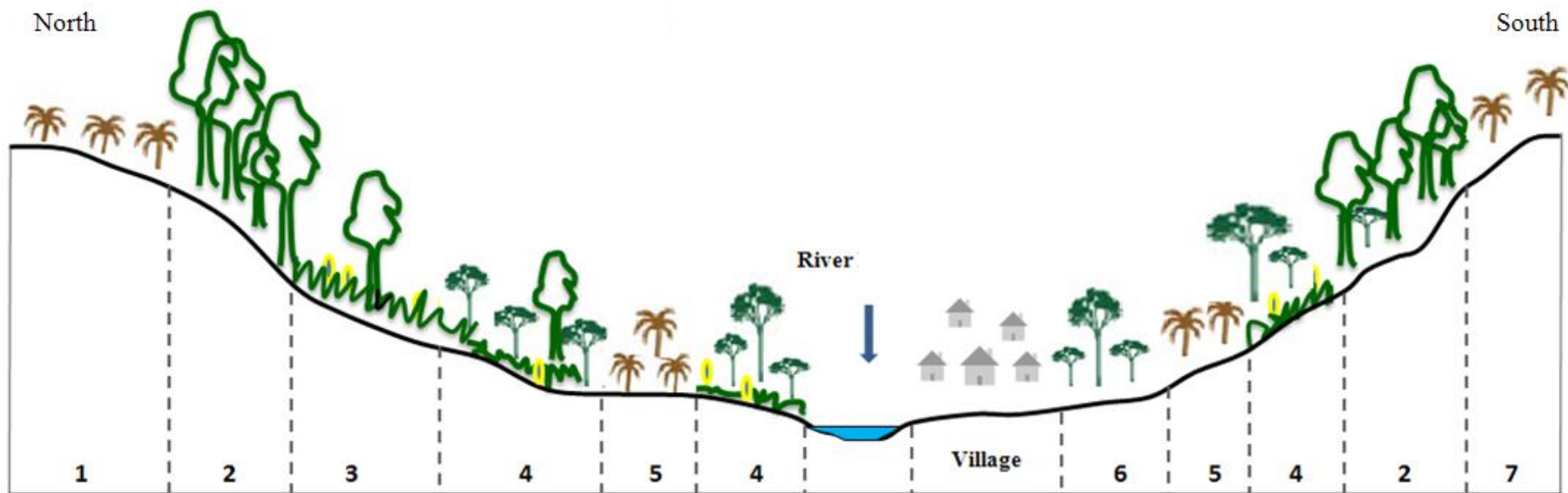




Household : 278 households
(3 Kampung)

Education : approximately 20 people are
studying at university

Land use	ha
Protection forest	1661
Customary forest	223.69
Rubber agroforest	2000
Rubber Monospecific plantation	10
Rice field	60
Oil palm smallholder	40
Oil palm company	16000



Household: 350 households
(6 kampung)

Land use	Area (ha)
Customary forest	472
Customary forest	360
Customary forest	388
Protection forest	776
Protection forest	361
Residential area	75
Rubber agroforest	600
Cinnamon	125
Ladang	610

History of village and evolution and involution of different types of cropping

Village 1

	Upland	Lowland	Village
Before 1910	Forest	Swamp	
1910-1930	Ladang	Hamlet	Settlement of the people
1930-1950	- Ladang - Rubber Agroforest	Lowland rice	
1960-1980	- Ladang - Rubber agroforest mix with Cinnamon	Irrigated Lowland rice through the water wheel	
1980-2000	-Ladang -Rubber agroforest Sisipan system + fruit trees	Irrigated Lowland rice through the water wheel	Oil palm company come to village
2000-2006	-Ladang -Rubber agroforest Sisipan system + fruit trees	Irrigated Lowland rice through the water wheel	-Motorbike and car - buying and selling land started
2006-2013	-Ladang + Rubber agroforest Sisipan system + fruit trees - oil palm - rubber monospecific -Rubber mix associate with cacao	-Irrigated Lowland rice through the water wheel - Intercropping with vegetable and maize	Asphalt road until the village Transportation the product to Muara Bungo

Village 2

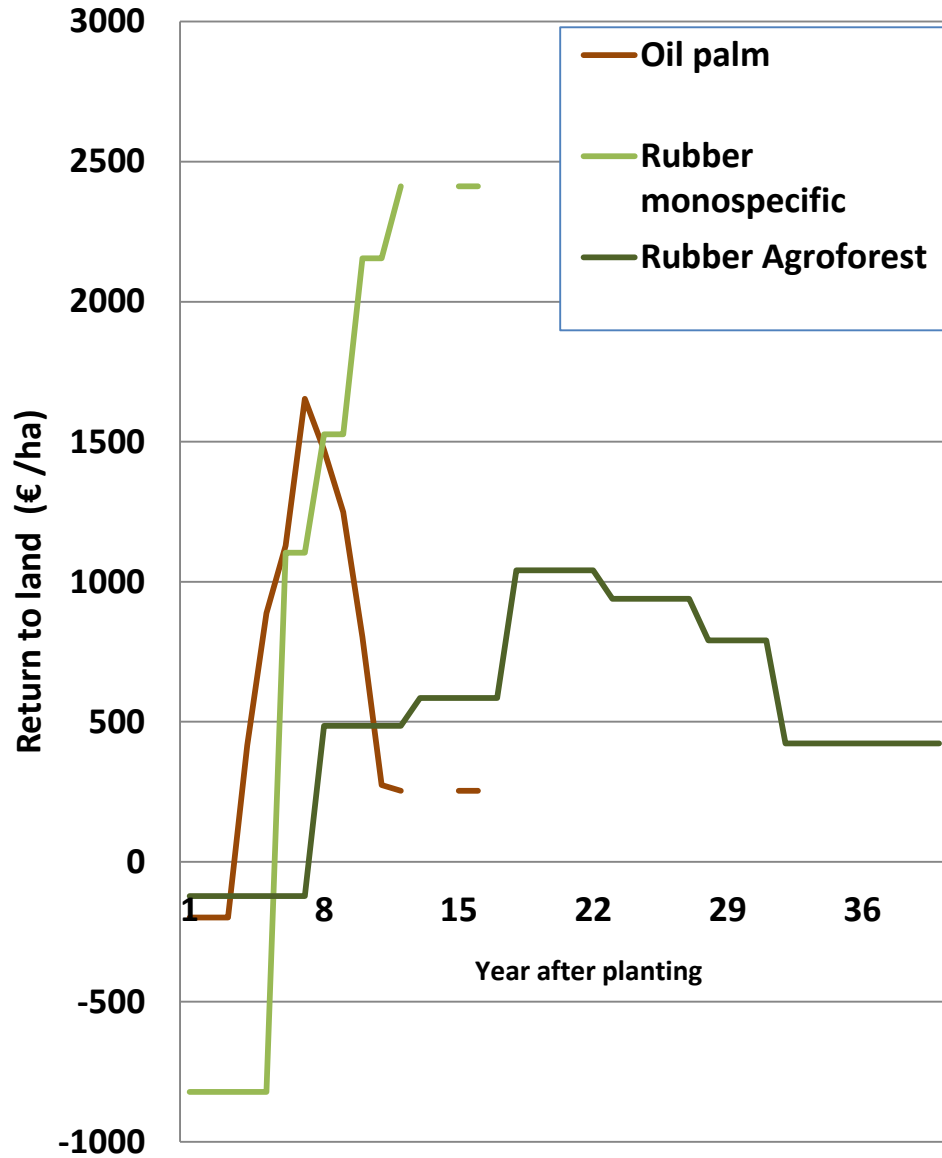
Lowland	Village
Swamp	
Hamlet	Settlement of people from Padang
Lowland rice	Transportation in the river
Irrigated Lowland rice through the water wheel	Villager collect NTFP
No lowland rice	Timber company came to village Bring the opportunity for road accessibility
Resident area	-Motorbike and cars - transport the products
-Resident area	-Electricity -Oil palm company come to socialization

Upland activity and movement is similar for the two villages

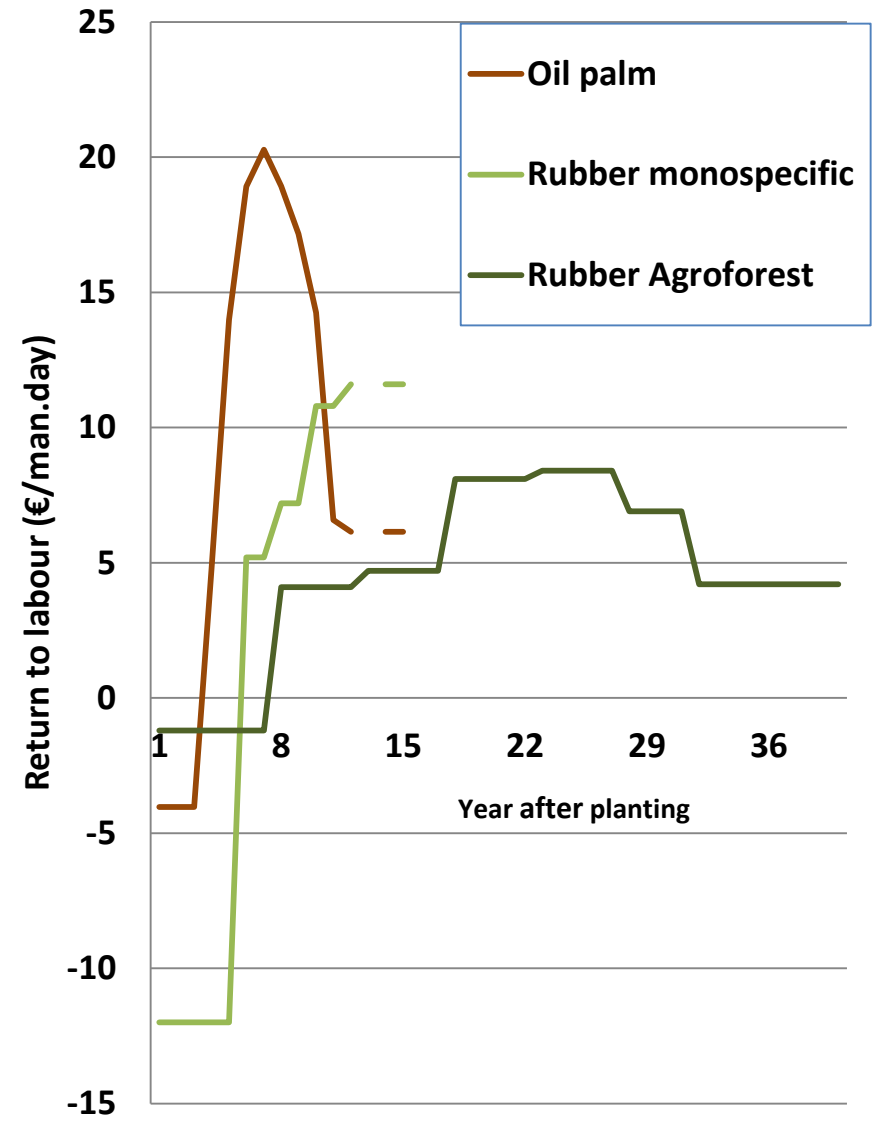
Data collection

- 3 months of surveys in Bungo, interviews conducted in Bahasa Indonesia
- Socio-economic analysis of cropping system, interviews of farmers:
 - Focus group discussions in 2 villages
 - Individual interviews: 47 respondents
- Stakeholder perception survey on oil palm development:
 - Village 1: 39 (female: 19, male: 20)
 - Village 2: 38 (female:18, male: 20)
 - Civil servants in Bungo: Planning agency (Bappeda), forest and plantation office (Hutbun) and statistics office= 16 people.
 - Academics: under process...

Comparison of returns to land in different ages of plantations



Comparison of returns to labour in different ages of plantations



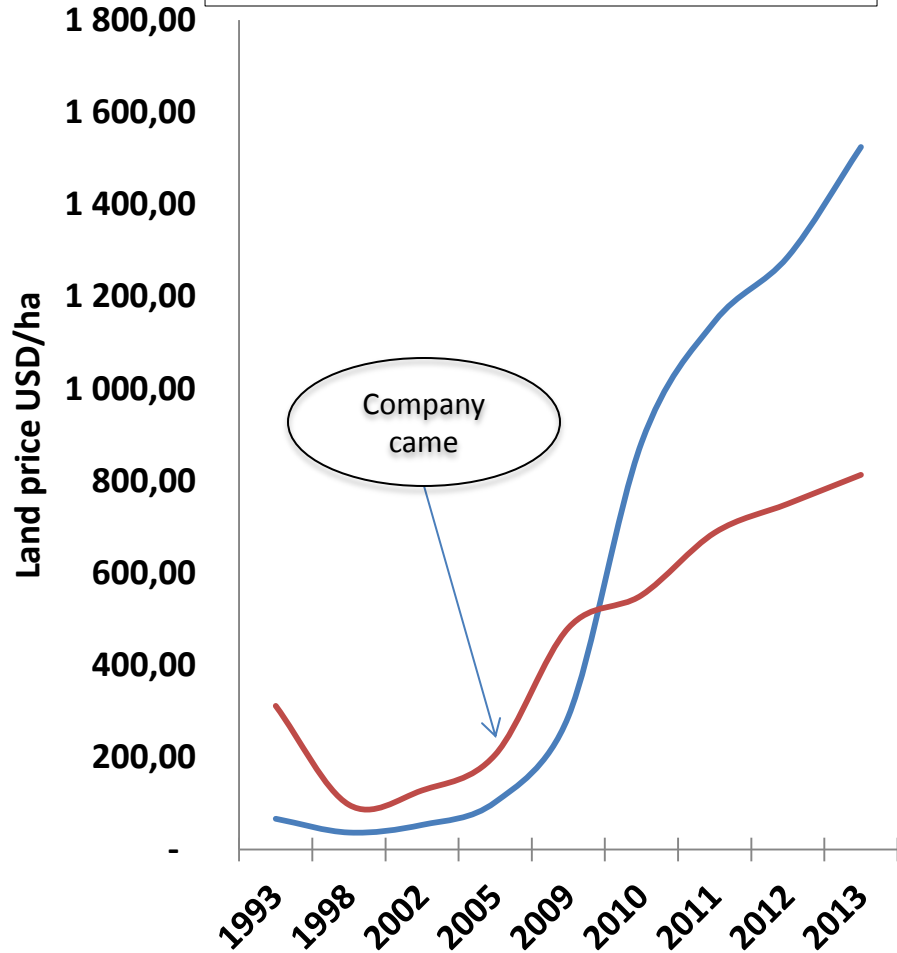
Land use profitability analysis

	Rubber Agroforest (full cycle)	Rubber Mono specific plantation (1 st - 12 th years)	Oil palm plantation (1 st – 12 th years)	Upland rice cultivation		Lowland rice
				Max	Min	
Return to land (€/ha)	710	1,799	794	768	236	202
Return to Labour (€/man-day)	6	9	12	6	2	2.4

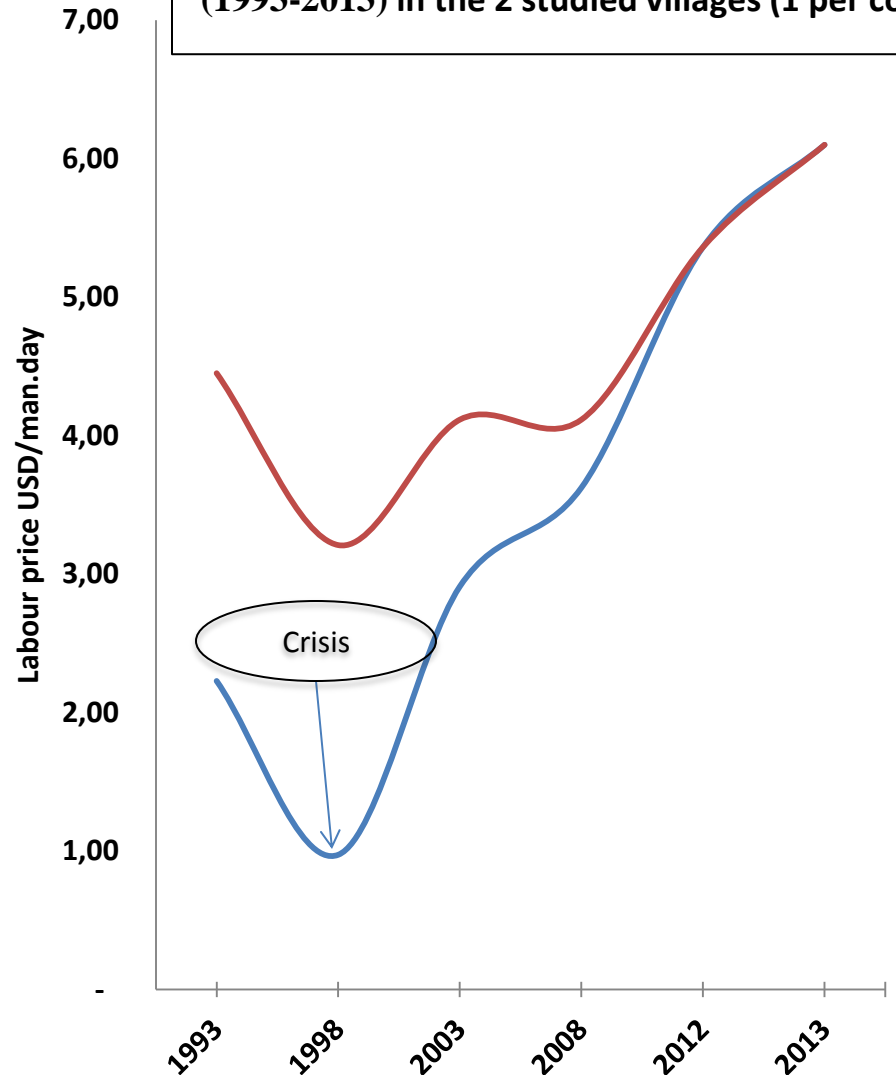


Evolution of land prices and labor price

Land prices during 20 years (1993-2013) in the 2 studied villages (1 per color)



Increase the Labor prices during 20 years (1993-2013) in the 2 studied villages (1 per color)



Arrival of oil palm company

Socialization with
villagers

1 oil palm
company
In 2009

Condition and contract:

- Land: 50 % for company
50% for plasma
- Share the benefits from the plasma:
60 % for company
40% for plasma holders

No socialization
with villagers

2 oil palm
companies
2008 and 2010

Condition and contract:

- Land share :
70 % for company
30% for plasma

Credit: 41 million Rp/ha

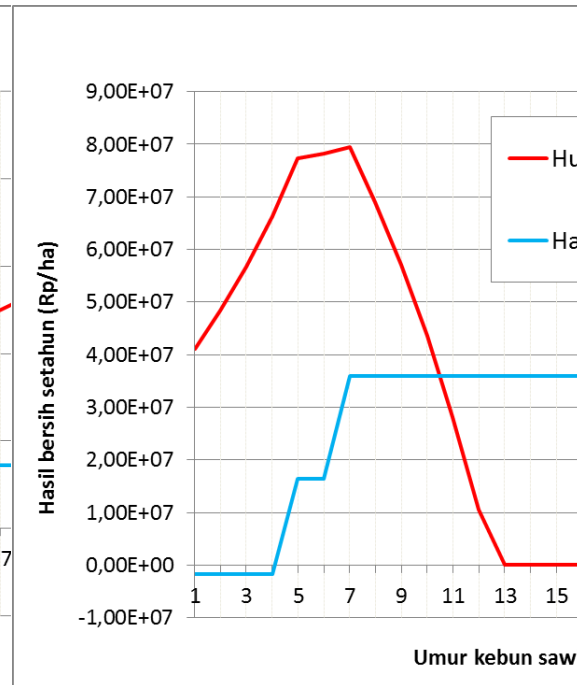
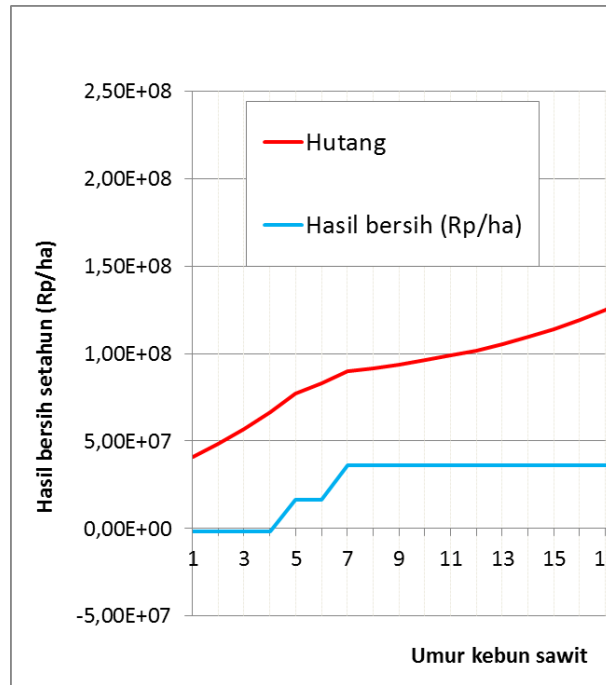
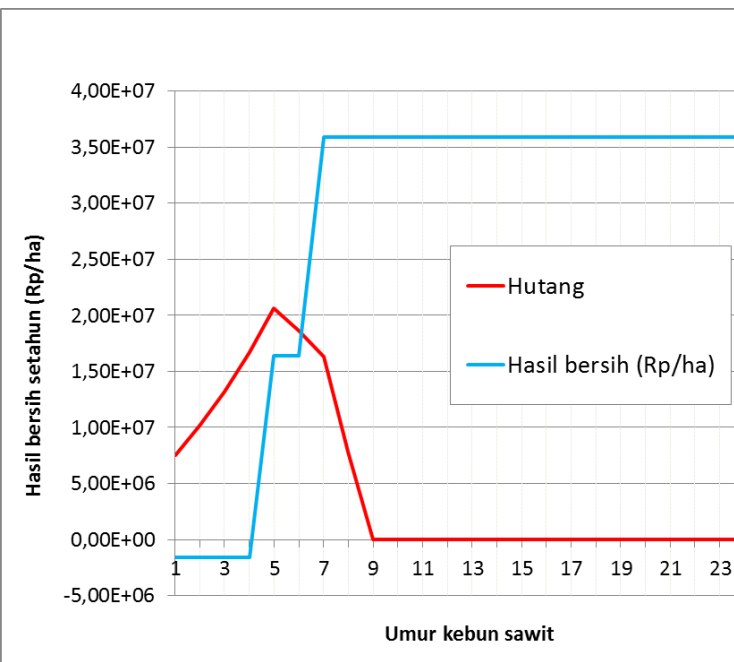
80-90 % of villagers in the two studied villages sold their land and plasma to company and to local investors

KKPA and farmers' debt

Land share	70/30
Plasma production share	0/100
FFB price (Rp/t)	1,5 million
% production to pay back	60 %
Bank interest rate	14
Initial loan	7,5 million Rp

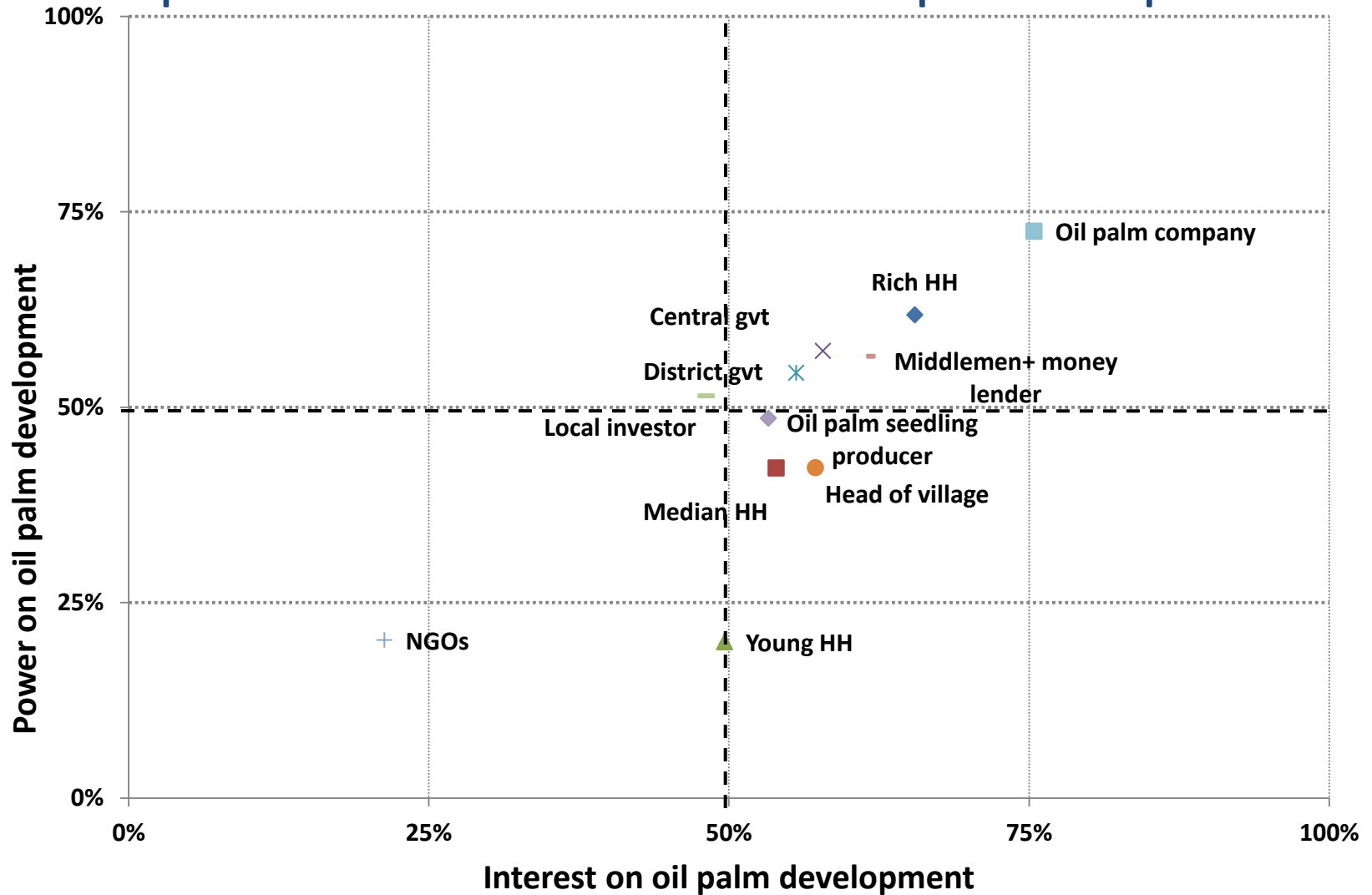
1,5 million
30%
14
41 million Rp

1,5 million
60%
14
41 million



Stakeholder analysis

Villagers' perception on "power and Interest of stakeholders in oil palm development "





PPA:

Participatory Prospective Analysis



PPA: Participatory Prospective analysis

- Objective:

Define possible futures of the village and its territory and think about the steps to follow the preferred scenario.

- Method:

- Preliminary surveys, analyzing the local context, stakeholders, issues

- 4-day workshops in two villages, with 8 to 10 participants from the village.

1a) Define the system: “Community economy in 30 years.”
Listing and defining variables that influence the system.



1b) Estimation of the relations of influence and dependence between variables.

Pangan

- HANA BABI
- PROSEDUR DAN PRODUKSI HAMA BABI
- HARGA TANAH
- AKSES KE MODAL
- PRODUKSI KARET
- PRODUKSI DWIT
- INFORMASI TENTANG HARGA KOMODITI
- HARGA
 - GASOLIN KARET
 - BUAH SAMBIT
 - BIBIT KSI, KAM
- HARGA GUNCI (GAK (GAKAN KAMU))
- HARGA PAKU
- PERINGKATAN JALAN KESUB
- AKSES HP
- PERINGKATAN ZAKAT PRODUKSI
 - KARET
 - GASOLIN
 - KARET UNGGU
 - SANTAN
 - KEMAS
 - SAWAH
 - JASING
- MUTI BIKIT TERBUKA
- PERINGKATAN
- PERINGKATAN BERKURUPAN
- PERINGKATAN KOLAM IKAN
- Perumahan
- Perumahan Bikit Tanah

Diagram: A chalkboard with arrows pointing from the 'Pangan' list to a central point, with numbers 1, 2, and 3 indicating different levels of influence.

Legend:

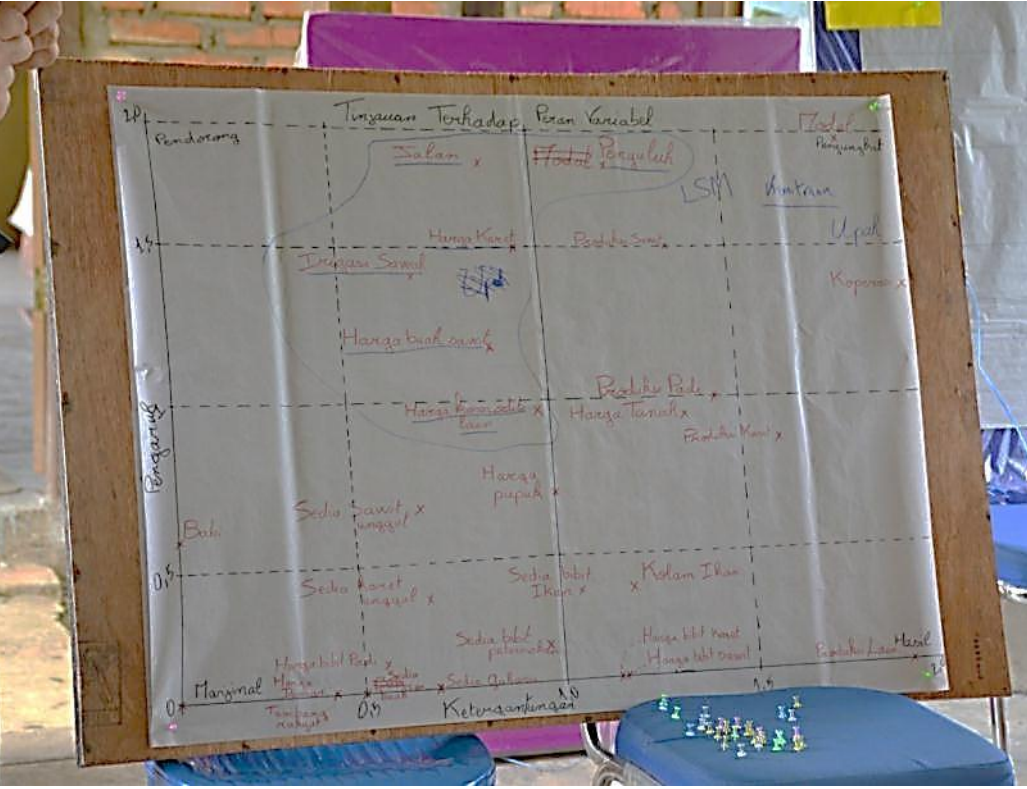
- 0 = tidak
- 1 = sdt
- 2 = sdg
- 3 = besar

Dipangan

- Hama Babi
- Thangadahan and pengendalian hama babi (Babi)
- Harga tanah
- Akses ke Modal
- Produksi Karet
- Produksi Sawit
- Informasi tentang Harga Komoditi
- Harga
 - GASOLIN KARET
 - BUAH SAMBIT
 - BIBIT KSI, KAM
- HARGA GUNCI (GAK (GAKAN KAMU))
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- PERINGKATAN JALAN KESUB
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Software Interface: A laptop screen displaying a software application with a grid and various data fields, likely used for data analysis or simulation.

2) Selection of 5 to 6 key-variables.
 Defining skeletons of scenarios
 (combination of states of the key-variables).



3) Describing three scenarios



4) Recommendations



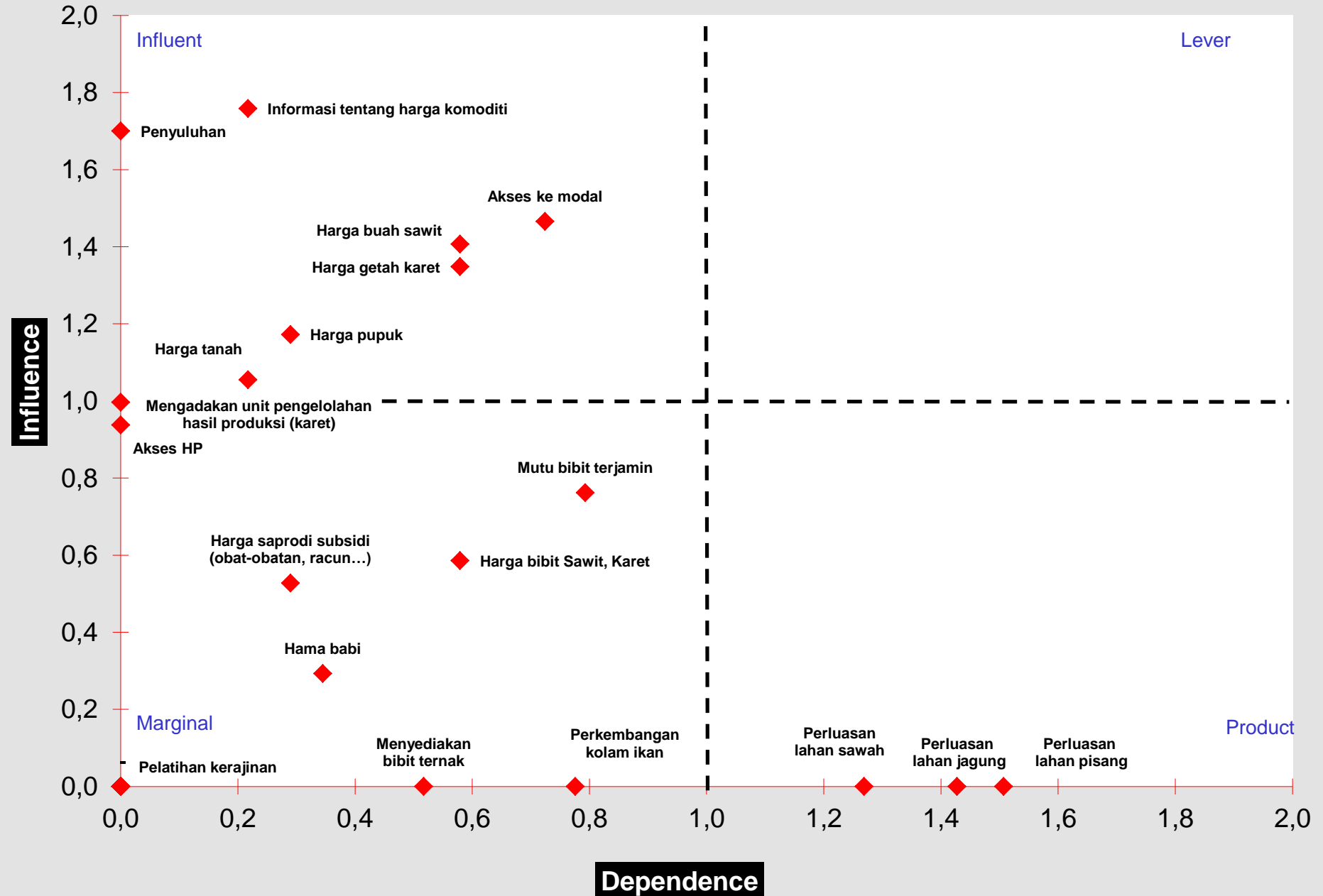
5) Presentation of the workshops results and recommendations to the district public officers.

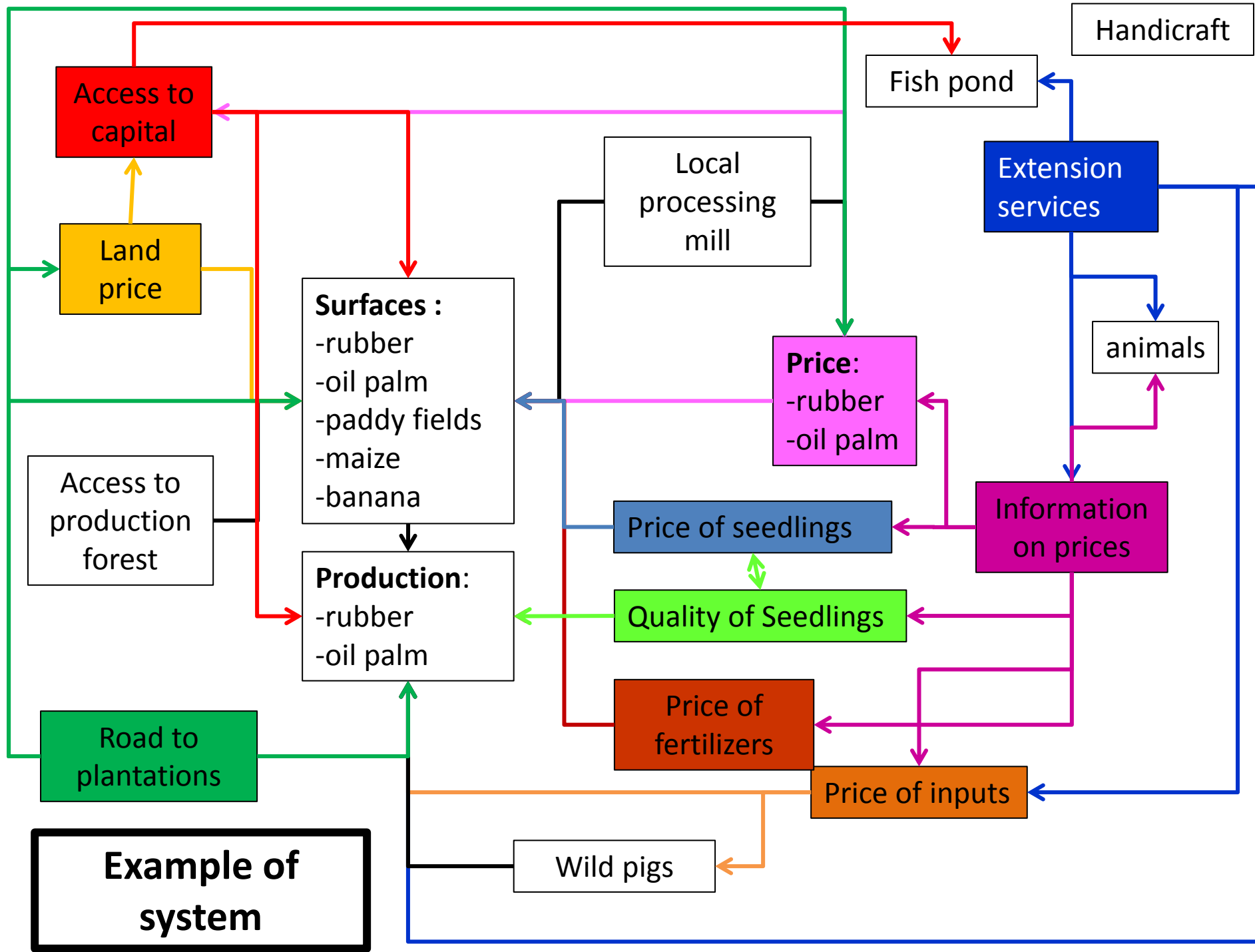




Example of results

Example of figure of influence and dependence of variables)





Concluding remarks

- On the method:
 - Laborious
 - Capacity-building ?
 - Direct impact ?
 - Challenge:
 1. Conducting it
 2. Up-scaling

Concluding remarks

- On the results:
 - Land grabbing by local elites
 - Conditions of KKPA
 - No relation made by people between forest and their livelihoods.
 - Mainly (nearly only) national forests remained in the landscape
 - NTFP are poorly profitable in comparison with oil palm and rubber, or with daily work in the estates.