

**Output 15 – Update report on the preparation of the 100 ha pilot plot for palm oil planting,  
including scrub clearance and soil preparation**

**PanEco Foundation**

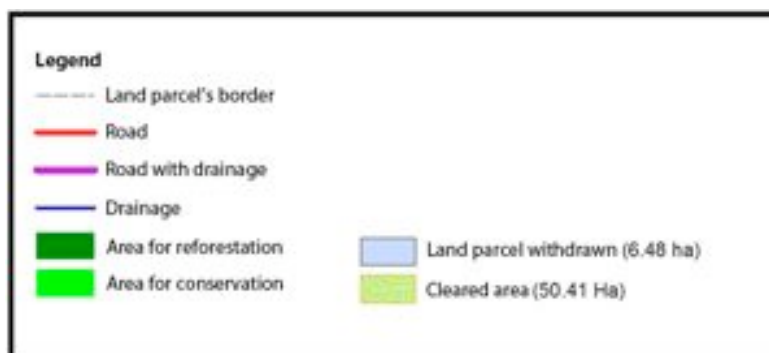
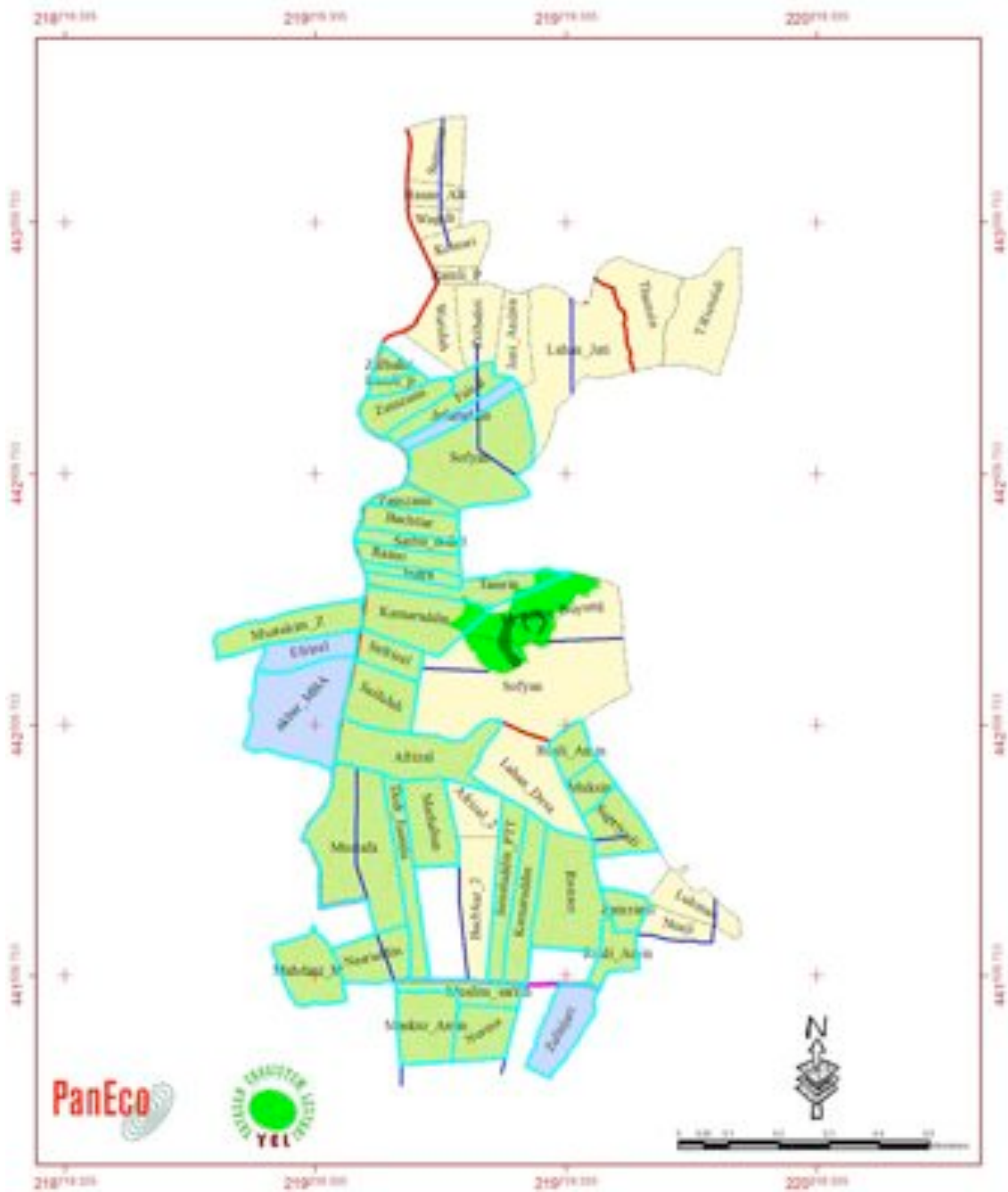
August 2010

## **Introduction**

This report provides an overview of the physical preparation and development of the oil palm pilot study (PS) plot, as of 26<sup>th</sup> August 2010. We address the size of the pilot study, the status of land clearance, the conservation area, the oil palms planted, the land cover crop planted, the road network and establishment of drainage canals, the physical status of the remaining seedlings, and facilities to produce fertilizer.

### **A. Size of the pilot study**

At the beginning of 2010, there were 58 farmers who together owned a combined area totalling 82 ha of degraded land in the village of Lamie, near to the Tripa peat swamp forest. These farmers have adopted the name of “Makmur Lestari” (or group of sustainable prosperity). Unfortunately, due to land conflict with the neighbouring community of Panton Pange located on the West, two plots (and four people) had to be removed from the pilot study. This is the plot of (a) “Efrizal” and the plot co-owned by three people under the name “Akbar\_MBA”. In addition, one person sold his plot and another decided to leave the group (all these lands marked in the map as “Land parcel withdrawn” indicated through light blue colour). As a result, the pilot study plot now covers approximately 75 hectares and comprises 52 participants.



Map and legend of Pilot Study area



At the same time, but not counted as part of this pilot study, PanEco is assisting another group of 10 farmers owning approximately 20 hectares in the village of Gagak, neighbouring the Lamie village. There the group is called TIBA (*Ternak Ikan, Bebek dan Ayam*, or Grower of fish, ducks and chicken). They are initiating oil palm plantations on fallow land left uncultivated since the end of the 1980's. The land was once cultivated for paddy rice since 1983 as part

Oil palm nursery in the Gagak village, with the leader of the TIBA group

of a central government trans-migrant programme, but problems with cultivation, diseases and predators resulted in the land being abandoned. These two groups are physically separate and distinct, but in reality, both belong to the same established Credit Union (CU). In fact the head of TIBA is currently the head of the Credit Union. In practice, this means that both groups are closely linked regarding the physical development of the pilot study (i.e. co-renting materials for clearing or co-purchase of seedlings, as explained below).

#### A. Physical development of the pilot study

In April 2010, the farmers finally agreed on the physical development of the oil palm pilot study (**see above map**). This includes an area to be set aside for conservation, the location of necessary roads and drainage canals, and locations for tree-planting (timber)

- Land clearance: Tender for land clearance was opened to group members only. In April, three members bid, and Sofyan won the contract to clear the land, with the promise to complete the task in July 2010. Since then, with two excavators (one yellow and one orange) he has been clearing the land. So far 53 hectares have been cleared leaving a remainder of 25 hectares that is one month late and still to be cleared. These 25 ha are located at the Northern of Sofyan's smaller plan (all below have been done). A first problem seems to be that one of the two excavators Sofyan is renting (the orange one) has suffered many technical problems and spent too much time under repair. As a result, the group has now decided to let Sofyan continue to work until Lebaran (Muslim celebration, 08 to 15<sup>th</sup> September 2010) is over. After the festivities, they will meet again to decide how to finish this work. A second issue is that there may be some land conflict with the neighbouring community at the North. This has to be yet confirmed.



**The problematic excavator once again out of order (piece of engine broken)**



**The other excavator**

- Planting seedlings: 27 hectares have been planted with oil palm seedlings at a density of 141 seedlings per hectare, the optimal density for oil palm plantations. There seems no plan any more to demarcate each different owners land with timber or agro-forest trees. Timber and agro-forest trees will be planted along the boundary of the entire pilot study only.



**Two views on the oil palm plantation established since June 2010**



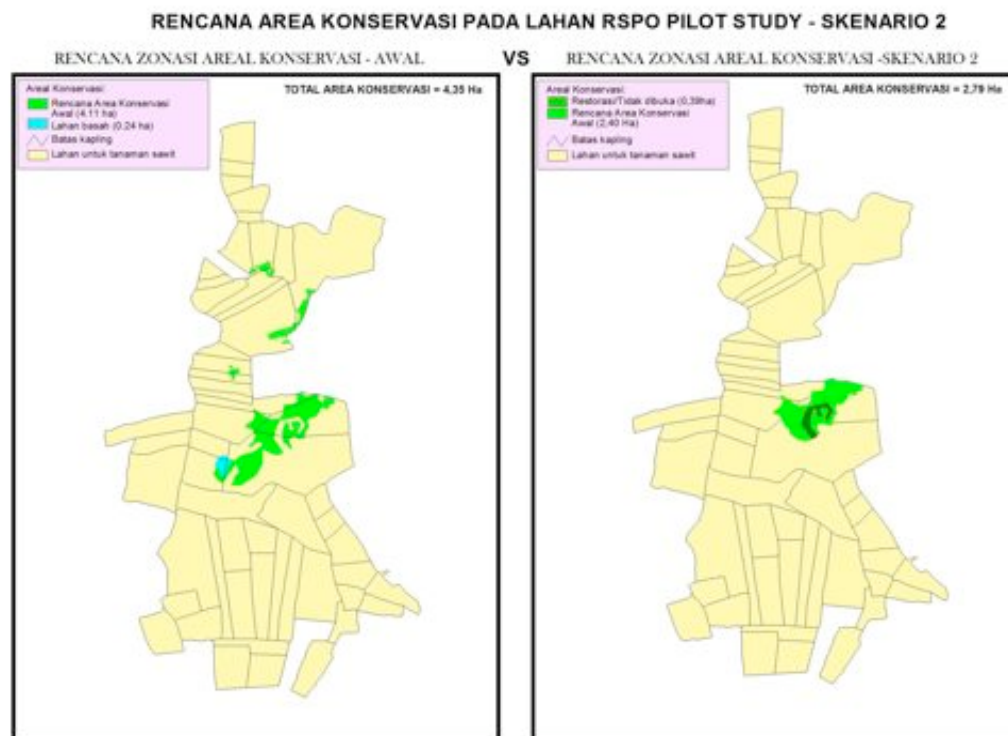
**Some of the oil palm seedlings yet to be planted on pilot study**

- Planting land Cover Crop (LCC): *Mucuna Bracteata* has been requested in May recommended (conserving the soil and improving or maintaining the soil structure and fertility) by and purchased from PT. Socfindo. The plants were only received and planted since July 2010. Around 20.000 seedlings have been planted so far, over 30 hectares (700 seedlings per ha). The LCC has not done well. It seems to have been highly stressed due to a prolonged spell of dry weather (no rain in the whole of August) and as a result, no more than 60% of LCC seedlings planted have survived. This is a major concern for the project, due to the extra costs and extra physical work that it entails. To anticipate this, the survived LCC are to be well maintained. New LCC seedlings will be generated from them on the plantation site. With the quick growth of the LCC, 30 centimetres in one day, new seedlings can be produced each day. Like this it will remove costs for the purchase and transportation, since the seedlings will be generated and planted within the same parcels of the Pilot Study. Even if they have to be moved, that will only be within the Pilot Study area.
- Establishing roads: The above map of Pilot Study area (1<sup>st</sup> image in this report) shows the roads and drainage canals planned by the community and the field assistants in April 2010. The participatory development of the plan started already back in December 2009. The red lines are planned roads, violet lines are roads planned with drainage canals along their length. As of 26<sup>th</sup> August, all of the planned new roads (both red and violet) have been created, since they were created at the same time as the land was cleared, and are now operational. Establishing drainage canals: The map shows the locations of drainage canals (in blue, *Rencana Parit*) planned at the same time as roads, in April 2010. As of 26<sup>th</sup> August, most of these canals have been created, and were established at the same time as the land clearance. There are still three main canals to be done in the northern part of the Pilot Study area (the area not yet cleared in the map).
- Establishing tree planting for the external delimitation of the pilot study boundary: To delimit the pilot study boundary, cacao and some local timber tree species have been selected. These are Mahogany, Seugon, Pule, and Jabon. Cacao seedlings have already been obtained and have been growing in the nursery for two months. Mahogany and Pule seedlings are also growing in nursery, having been obtained in August. Seugon seedlings are still being sought. In addition to the above, a few Durian trees currently already in the nursery may also be planted.



**Pule tree seedlings in “poly-bags”, at the tree nursery in Gagak**

- Establishing Conservation area: A trade off had to be made in the eventual identification of the area to be set aside for conservation. After long discussions with the farmers, it was decided in March 2010 to conserve the area according the scenario on the right of the two maps below (Scenarion 2). Whilst perhaps not the most environmentally sound choice, this is obviously the most sensible from local farmer and from a management of oil palm plantation perspective. It involves sacrificing some scattered clumps of trees, in favour of establishing a single larger (2.8 ha) forest block of high quality. A part of the area to be conserved (dark green) is at present badly degraded, and this area will be managed and reforested by YEL/PanEco to enrich this area with indigenous forest vegetation, such as different rattan species (used for furniture) and rotundum (endangered tree species) that have been found in this area.



## B. Oil palm seedlings

The farmers received a total of 15,300, 3-month old seedlings from PT. Socfin in March 2009 and then an additional 2,070 seedlings (also 3-months old), in August 2009. In the Lamie Plot,nursery, 681 of these seedlings died (see below) from diseases (e.g. anthracnose), and due to damage by wild animals (namely pigs, porcupines, and monkeys)). The survival rate at the Lamie Plot nursery has therefore been 95%, which is rather good. Therefore, there is much more than enough for the 75 hectares. The seedlings were correctly fenced to prevent pigs, monkeys effectively chased away. But porcupines remained a problem even though 10 traps we put.



**Trap for porcupines in the oil palm seedlings**

As for the 20 hectares from Gagak village, PT Socfin provided 2,010 from which 170 died

NO	Date	Recieved	Loss	Remarks
1	23/03/2009	15300		Recieved from PT Socfin
2	01/04/2009		100	Died before moved to bigger poly-bag
3	04/08/2009		300	Destroyed based on diseases anthracnose
4	20/05/2009 and 28/12/2009		208	Attacked by wild pig, porcupine and macac
5	01/01/2010		121	Attacked by wild pig, porcupine and macac
6	23/07/2010		52	Attacked by porcupine and rats
	<b>Total</b>		<b>681</b>	

## C. Making fertilizer

Fertilization is an important on-going requirement, especially if the aim is to develop organically produced palm oil. At the moment two sites exist, one in Lamie village, and one in Gagak village. A major achievement of the project was the donation by the local government of a small hut to produce and store fertilizer. This hut is still under construction. Fertilizer is added to the oil palm seedlings, and to the LCC in the whole Pilot Study area, before they are planted out. At the moment at total of over 30 tons of fertilizer has been produced.



**Fertilizer factory in Gagak with head of Credit Union**