

# ICOPE 2012 Summary and Conclusion

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Ladies and Gentlemen, dear Participants,

More 405 participants from 18 countries have spent the last two and half days in discussions and constructive debate: the 2012 International Conference on Oil Palm and the Environment (ICOPE) with theme “*Conserving Forest; Growing Sustainable Palm Oil Production*” has reached his objective “*to highlight environment issues, share experiences to identify solutions and resources for the benefit of the environment and the palm oil industry itself as well as to refine the best agricultural practice of oil palm*”.

It is my duty to deliver the conclusion of the conference. I will do it in 2 parts: first a summary of the presentations, and then some conclusions.

## 1 - Regarding the papers:

In the introductory lecture, the **Mr Colin Crooks**, from the European Union office in Indonesia, confirmed that EU regulation should not be seen as barrier for palm oil export to EU. He acknowledges that there was a high variability between EU countries and their national regulations. EU is working toward an uniformization of these regulations.

**Dr Carl Traeholt** emphasized on the idea that mitigating GHG emissions, keeping riparian area, managing watershed are an investment for plantation companies. He stressed that the cost of these activities

represents a very small part of the financial profit plantations are making (when CPO prices are good), but this is an investment for future generations and it is worthwhile making it.

Carl is convince that sustainability at the company level should not be “contracted”, and consequently he recommends that companies have there own human resources for environmental activities, integrated in the company structure in a similar way that operations are.

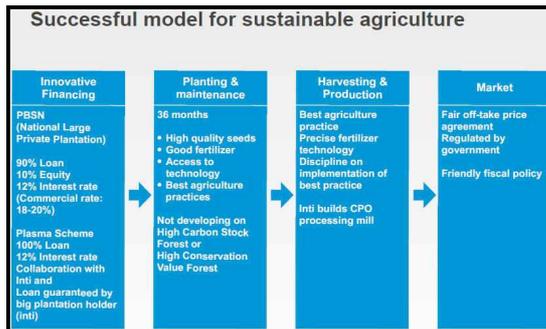


The cost of sustainability

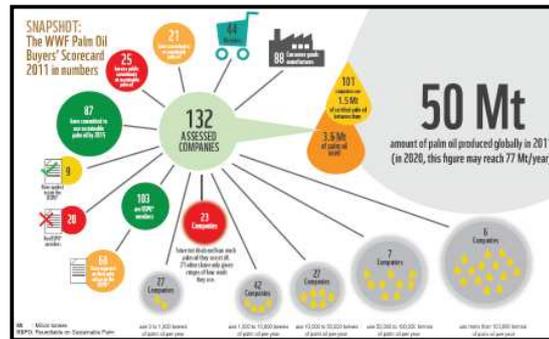
In her paper which was summarized by Dr Nazir Foead, **ibu Shinta Kamdani**, from the Chamber of Commerce of Indonesia (KADIN), emphasizes the importance of the government intervention, which according to her, should accelerate the implementation of sustainability policies. She recommends the governments to provide incentives, which will certainly results in enhancing growth, based on examples on several countries.

We had 3 very interesting high level speakers during the plenary lecture. **Bp Franky Widjaya**, as co-chairman of the partnership on Indonesia’s sustainable agriculture at the World Economic Forum, gives his Vision for food security, economy growth and business opportunity. The objective is to increase yield by 20 %, while reducing emission by 20 % and reducing poverty by also 20%.

According to Mr Widjaya, this should be possible, based on the past success stories experienced by several agriculture development programmes. The achievement of these objectives relies significantly on improvement of the performance of smallholders, which require innovative financing schemes.

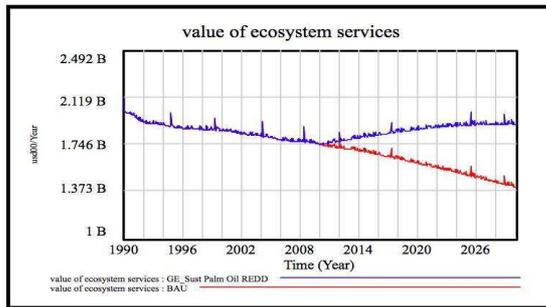


**Dr. Efransjah**, CEO of WWF Indonesia, sees a priority for companies to produce and to use sustainable palm oil. He made a detailed analysed of the costs and benefits of such a proposal. Financial benefits from adopting the RSPO Principles & Criteria typically outweigh the costs, in many cases significantly, yet often through unexpected and indirect channels. Implementing sustainability in the palm oil business as well as other sectors that rely on natural resources should be seen in the long term business vision. The captains of the industry should lay out a visionary business plan that can be inherited over generations. Sustainability is a matter of sustaining the vision and ability to deal with the growing challenges. Short term profit-seeking will soon no longer be relevant.



WWF buyers scorecard

**Dr Hans Herren**, Director of the Millennium Institute, reveals that many resources are in a peak position, ie. we should face a decline on their availability in the future. In addition, it affirms that yield could no longer increase significantly, should we based this increase only on these inputs. The only long term solution, sustainable solution, relies on a change of paradigm, by developing practices based on lower inputs, based on an increase, or a better use of the ecological services. Based on his analysis the quantity of product produced is not a real issue in the short and medium term, as a significant part of products is lost, especially during post harvest stages in developed countries, while dominantly during the production phases in developing countries. He estimated that 2600 calories are lost out of 4600 cal produced. Education is the key factor for a sustainable development. In addition, we have to remember that Agriculture must be looked as a multifunction activity, with its social, environmental and economical aspects.

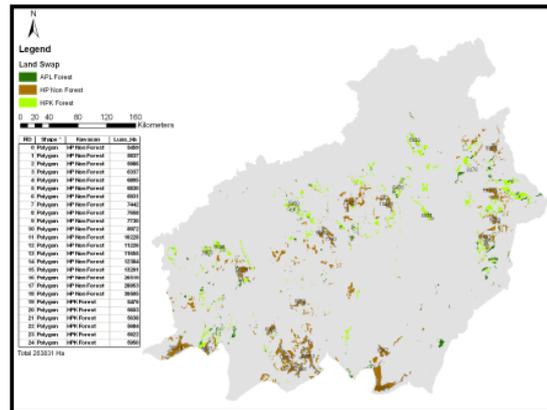


...understand the system: Kalimantan T21 Model



.....using the gifts of nature, habitat management

**Dr Rizaldi Boer**, from the Bogor Agricultural University, studied the possibility of reducing agricultural expansion into forest in Central Kalimantan, focussing on the implementation aspects, and financial gaps. The objective to increase production is to develop new plantations exclusively on degraded land, and to increase smallholders productivity. Based on land physical condition, a revise land status would be necessary in order to put legal status of land in line with its physical status. Subsequently land swap should allow development to take place. The cost analysis of such a strategy is proposed. Finally the condition for a yield improvement in smallholder land and its cost analysis was presented.



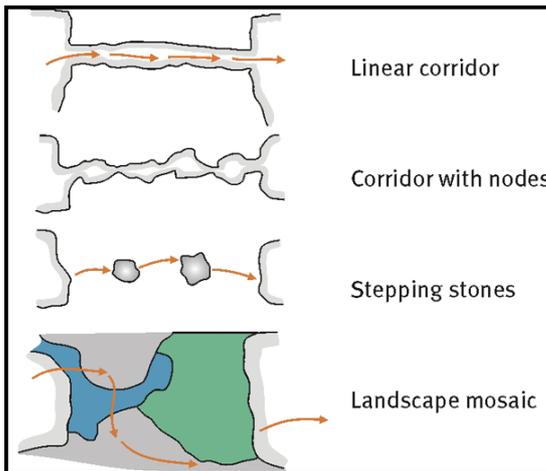
Land distributions for swapping (Indicative) (Rizaldi Boer)

In the first technical session, **Perry Mandeville**, Director of Pt. Earthline, presented a detail view of the capacity of remote sensing as a contribution to the development of plantation and their management. Digital elevation model together with various algorithms make it possible for example to map terrain, count palms and map their position in the field. Cost varies between  $\pm$  USD 0.40 and USD 2 to 4/ha depending on the type of parameter and analysis.

**Dr Mikle Zrust**, from the Zoological Society of London presented the work done at ZSL aiming a developing an operational tool for the monitoring, reporting and verification related of the management of HCV areas in oil palm landscape. This tool should help RSPO to improve further its credibility, as this is one of the first tools that will aim at assessing results achieved in plantation, rather than controlling the practices on planters. The tool is expected to be completed in 6 months time, and will be first tested by ZSL.

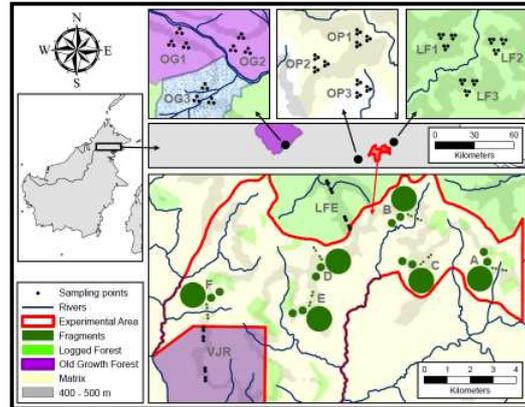
**Dr Philippe Girardin**, in his general lecture about ecological corridors, presented a detailed explanation related to

the conservation of biodiversity at a large scale level. Such project should combine large conservation areas with small areas, all together connected through a network of corridors. Priority should be given to natural corridors such as riparian areas, wetlands, mountains, ... rather than making “artificial” once. He launched the idea of developing a **Rainforest Corridor Network**, as similar project exist in developing countries. He emphasised on the fact that such project would not succeed without an active involvement of local communities, the political support of governments, and financial support of institutions such as the World bank.



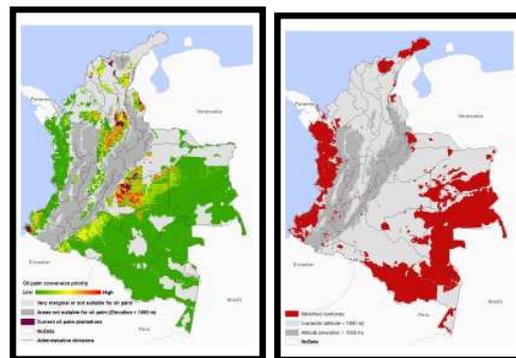
Different types of ecological corridors (P. Girardin)

In the second technical session devoted to forest and biodiversity, **Edgar Turner**, from Cambridge University, presented the SAFE project, namely the Stability of Altered Forest Ecosystem project. The objective is to do a study as exhaustive as possible of the processes taking place during the development of new plantation on forest landscape. Observation includes the dynamic of carbon, nutrient cycling, microclimate, plant growth, fauna diversity... at a space and time scale not often studied today.



The SAFE Project design (Edgar Turner)

**Dr John Garcia** from Columbia presented the impact of possible future development of oil palm in this country, based on several scenarios characterized by the priority given (carbon conservation, ecosystem protection, maximizing oil palm production, agro-industrial development, ...). The results are presented as land planning maps that could be used for further analysis and confirmation based on additional criteria, such as the disease risk or re-enforced environment parameters (Amazon area).



Oil palm and vulnerable communities in Columbia (John Garcia)

Professor **Dodik Nurrochmat** reminded us that there are more than 40 millions ha of degraded forest in Indonesia that could be used for Agriculture development. However, the ownership of this land is a

main factor that has to be taken into account.

His study shows that although oil palm cultivation is currently a very attractive activity for smallholders, there is a high sensitivity to price. In addition, sustainability agricultural practices have to be paid back by better price, which professor Dodik calculation reaches around 7 to 10 %.



Land tenure policy recommendations (Dodik Nurrochmat)

**Dr Barano** presentation from WWF was about the progress of the Green Sumatra ecosystem based spatial plan. Mapping and quantifying the value of ecosystem services using a specific tool name InVEST, developed by Stanford University is in progress. The software was tested in Sumatra RIMBA landscape. Simulations show that a better management of landscape will reduce nutrient loses, together with other ecological services. He mentioned that the software is currently in the testing phase.

In **PT Astra Agro Lestari**, the company is studying the functional diversity and spatial pattern of birds, including the services they could provide. **Bp Bandung Sahari** reported that 88 species of birds

were found in a survey done, with a lower in oil palm plantation (17) compared to secondary forest (32) and swamp forest (34).

Other findings show that there are species which are spatial specific, while other can mixed together. A mosaic in the structure of oil palm plantations is recommended to enhance the size of the population and diversity of birds. He assumes that some of these birds contribute to the IPM.



**Bp Barakalla** from PT Bisma Dharma Kencana, presented the effort of the company in favour to environment, in cooperation with their partners (NGOs, institutions, education bodies, ...). These efforts result in an enhance flora and fauna biodiversity, which is quantified through surveys. These surveys are used for education and worldwide exchanges.

**Dr Tan** presented the Malaysia CPO Life Cycle Assessment performed by MPOB based on ISO 14040 guidelines, for the whole palm oil supply chain from nursery to biodiesel. The results were used to define strategies for reducing GHG reduction at all level of the chain: reduce inorganic fertiliser usage, as GHG emissions (45%) are due to mineral fertilisers use; an increase of yield performance of the palm plantations; close the gap between yield potential and actual

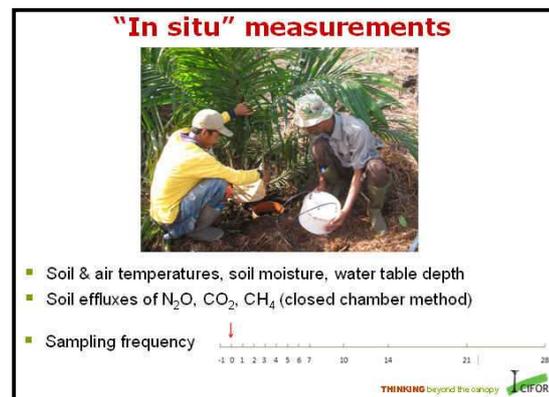
yields should contribute to reduce further the footprint of CPO production.

In Indonesia, carbon footprint evaluation has been done by KMSI with the scientific support from ICRAF, in collaboration with several plantation companies representative of the various situations in Indonesia. Dr **Rosediana** reported results showing a positive situation in term of GHG savings, except when plantations are establish on peat soils.

During the discussion **with EPA**, questions about the choice of the model used, the assumptions that might not be fully relevant as they are based on technical and national regulations which are changing compared to past recent years: during the discussion it was mentioned that national government have already set up new regulations, the industry is also changing its cultivation standards, and several leading companies are taking even more stringent measures to reduce their footprint. EPA reminded us that biofuel is not banned for entering in US, however, green certificates will only be awarded to biofuel which fulfil the US standards in terms of GHG savings. She also reminded us that public consultation is still open on the EPA website until 28 March 2012. It is important for all of us to take this opportunity to provide the EPA team with relevant and accurate data so they can take their relevant decision.

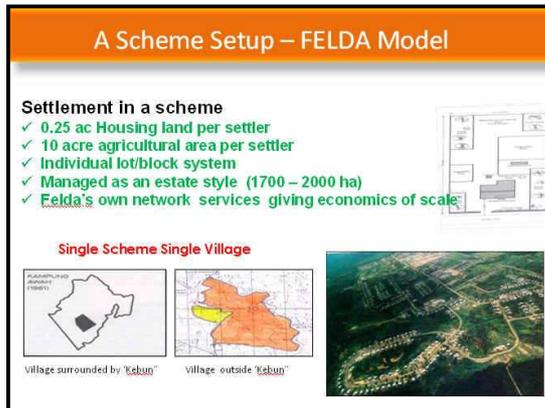
**Dr Cecile Bessou** presented the findings of a detailed LCA of various production systems in Indonesia. The results show that fertiliser and POME are main contributor to GHG during the cultivation phase. However, other finding of the LCA show that none the systems studied present optimum situation, including smallholders systems.

**Dr Kristel Hergoualc'h**, from Cifor, reported measurement of N<sub>2</sub>O emissions subsequent to N fertiliser applications, on young developed peat, with an emission factor reaching of 2.5%. Further measurements are currently carried out to complete her study.



GHG emissions in situ measurements

In Felda, Dr **Ilangovan** presented the successful development of smallholders in Malaysia. This success story is due to a combination of well managed, well structure organisation, where settlers are part of the management system. Best practices similar to big industrial plantations are implemented, resulting in the fact that several units have been among the first RSPO certified. Changes are expected to occur in the next future, as the next generation of settlers are progressively taking over their parents, with different life objective, and also with progressive change in landownership, the settler becoming the owner of their land.



Felda model

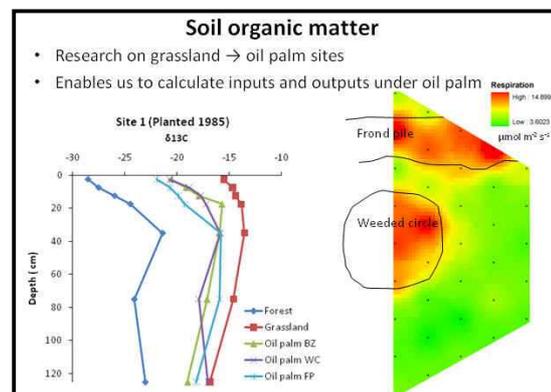
**Dr Paul Koona** revealed that smallholders in Cameroon were getting in a difficult situation, where lack of milling capacity for fruit treatment, with subsequent pollution leads to local conflict between local people. Government's current objective is to minimize wastes, and getting additional income, by setting up mills for a more environment friendly oil extraction from the fruits. The perspective towards sustainability goes through the whole chain, from seeds supply, increasing research, enforcing certification in order to increase the quality of services (seed production, ...), through incentives.



Pollution risks also exist in smallholders activity

**Dr Janice Ser** from ETH Zurich studying the smallholders in Jambi-Sumatra did an analysis to identify the limiting factors of production. 376 smallholders were

interviewed. The preliminary results show that the main factors i.e. yield, harvesting intervals, the price of bunches, the distance to the mill, the level of technical assistance. The main factors to yield was planting material, age, fertiliser use, ... Independent smallholders performance was significantly lower than the scheme smallholders. Access to high potential planting material reveals to be difficult for independent smallholders, as well as knowledge about the quantity of fertiliser to apply, in other word extension services are missing for independent smallholders. On the other hand, herbicides are used at abnormal high rate compared to standard practices.



Soil organic matter distribution

**Dr Teguh Wahyono** from IOPRI, reminded that the main limiting factor for intensification was usually access to finance, in order to buy necessary input for an intensification of the smallholder oil palm plantation.

**Dr Neil Douglas** from Agrinos gave a very comprehensive and interesting presentation about nitrogen microbial conversion and fixation, as well as the microbial contribution to phosphorus nutrition management. Microbes are most probably one of the basis of the change of

paradigm we are looking for, allowing both better plant growth, and environment improvement

**Dr Paul Nelson** from James Cook University in Australia, is working with OPRA Papua New Guinea on the development on Environmental sustainability Indicators palm oil production, focussing in soil health and water quality. Using data recorded by plantations, visual observations, ground measurements, he is able to assess the sustainability level of palm oil production. Changes in soil characteristics are being measured, including carbon using isotopic signatures, but also other nutrients, and these results will obviously provide key knowledge for the understanding of what is happening in terms of soil change quality.

**Dr Jack Snaddon**, from the Oxford university insists on the fact that biodiversity can be divided in 2 components: one relative to HCV, which is currently getting most attention, the other one is not well known, although this biodiversity plays a key role in the relationship between these component of biodiversity plays in ecosystem functions (in biological control of pests, etc ...).

The last presentation, made by **Dr Murom Banabas** from the OPRA PNG, focussed on nitrogen management, and was able to show that with good management practices, loses of nitrogen is quite limited and under control. On the opposite, high loses can be recorded with not appropriate field practices, with high contribution of heavy rains. Using the residence time model, he is able to

describe the seasonal variation of the risk of leaching and make recommendations for optimal field practices.

**2 - I would like now to briefly propose some comments:**

1 - During this 3<sup>rd</sup> ICOPE conference, we have touched upon what I would like to call a **multi-scale dimension of the relation between oil palm and the environment**, from studies done at a cm square level, to site, local (estate level), large scale such a provincial, national, regional and international level.

2 - It is quite interesting, even exiting and encouraging to see that so diverse activities are being implemented by the all the stakeholders. It is even more encouraging to see that most studies are done in collaboration between plantations and their partners, ie. institutions, universities, NGOs and research centres.

**3 - I strongly think that we should send this message to the world: the oil palm community is working very hard to learn, to develop new tools for evaluation, for decision making, for communication**, although, there is still a lot to do, in many fields: for example biodiversity is still difficult to quantify, ecosystem services are still difficult to identify. So it still requires a significant effort to be done.

I would like to ask the media , the representatives of the various Western Countries Embassy: we had in the room representatives of the US, UK, French, you should forward the message back to your respective authority: the oil palm industry together with its partners, Institutions, research centres, and NGOs is

acting very fast, and continuing its journey towards sustainability maybe not fast enough, but in collaboration.

**4 - An important point is that these efforts have always to be guided by a final operational objective. Why must we be guided by a final operational objective; for several reasons:**

- we are in a hurry. A couple of decades ago, we were used to a 10 years time lag between knowledge findings and applications; this time lag was used to verify the findings and their side effects before making recommendations for implementation.
- Today we are working in straight line. We have been asked to implement directly findings. There is often not enough time between learning and implementation.

In such situation, more errors can be made. We must keep this in mind. Despite this warning, I would like to emphasise again that what the industry, decision makers, governments, are expecting is some kind of **scientific research for quick operational implementation.**

A second point is that research dedicated to smallholders activity is still too little. We have seen that smallholders are part of the solution regarding the theme of the conference “**conserving forest, expanding sustainable palm oil production**”, in terms of yield performance, but also in terms of impact on the environment. 2 papers mentioned that pollution risks due to fruit treatment, or high herbicides utilisation (sometimes higher than industrial plantation). This is in contradiction to the usual perception that smallholders practices are always

sustainable. Stronger effort has to be made by research centres towards smallholders, and government must develop stronger extension services.

An other important point in line with this last point is regarding education: Education was mentioned several times during the conference: this is a key factor of sustainable development. All of us must be involved in the process.

As a conclusion, I would like to congratulate all speakers and the participants for their contribution to the success of the conference.

I also would like to thank all the sponsors, especially the 2 emblematic one, BNP Paribas, and Bank Mandiri, for their continuous support since 2007.

I cannot forget the team of organizing committee, with the always efficient bp Lalang, bp David, bp Rendy, miss Tyas, miss Shita, bp Urbanus, bp Deni, miss Emmy, miss Vira, Bp Musa, bp Nogoseno, bp Yong, miss Amelia, Rusida, bp William, bp Abdullah, Divo, bp Johni and his team.

I cannot forget also the steering committee from WWF, Cirad and Pt. Smart, for their inputs, recommendations, and non quantifiable help.

Many thanks also to Dian, the charming master of ceremony.

**I would like now to invite Robert Habib to come on the stage and officially close the conference.** Robert has been supporting the conference since the first one in 2007. after 5 years of active contribution, including for Icope, he will

be promoted in a few days time to a new high position in the research organisation structure of France. Many thanks Robert for your contribution, and please come to the stage for this final duty, and I would enjoy if you could give us some very final conclusion showing the way to go to reach or aim of sustainability in agriculture.

Ladies and gentlemen, it is time now to close this conference, but before that, I would like to thank:

All participants,

All presenters,

All posters authors

All the Moderators

All the Panellists

Special thanks also go to the steering committee, the organizing committee, and not forgetting our sponsors.

Bali, Denpasar, 24<sup>th</sup> February 2012

***Prepared in association between  
SMART Research Institute, Cirad  
and WWF Indonesia***