ICOPE 2014
Summary and Conclusion

By J.P. Caliman
Head of Smart Research Institute
(PT. SMART R&D Division)

Ladies and Gentlemen, dear Participants,

With almost 450 participants from 18 countries gathered during the last two and half days for discussions and constructive debates about the theme:

*"**Oil palm cultivation: becoming a model for tomorrow's sustainable agriculture",***

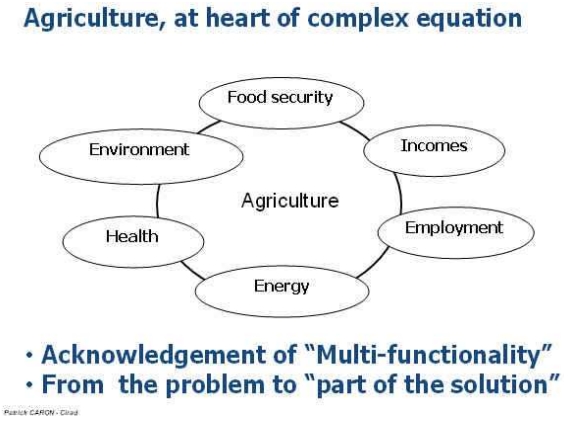
the 2014 International Conference on Oil Palm and the Environment (ICOPE) has reached his objective:

"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 this final speech of the conference. I will do it in 2 parts: first a summary of the presentations, and then some conclusions and recommendations.

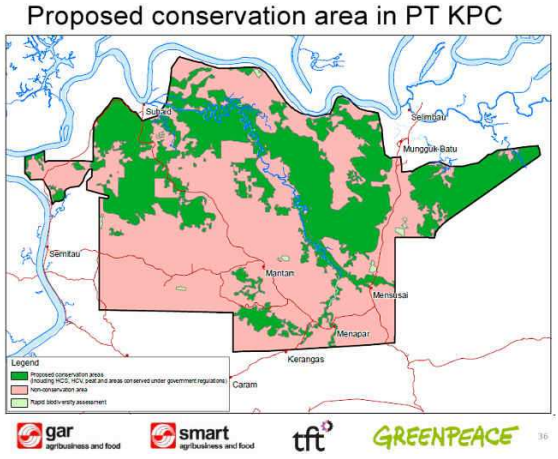
1 – Summary of the presentations

After 3 speeches from the 3 respective ministers, Agriculture, Environment, Forest, sharing with us they priorities and directions, we started the conference with a very interesting lecture about "tomorrow's Agriculture", by **Dr. Patrick Caron**, the Scientific Director of **Cirad** (France), followed by a forum discussion about "what model for future Agriculture en general and oil palm in particular". The following figure summarized very well the characteristics that will be asked to Agriculture in the next future. Based on the discussion between the panellists, as well as the comments from the floor, we could agree that, based on the current changes in development in the industry, oil palm cultivation is a good example of what trend Agriculture should go for in the future. We agreed that there are domains which are very well settled, while others are quite well engaged, or reasonably engaged, or about to be engaged in a short future.

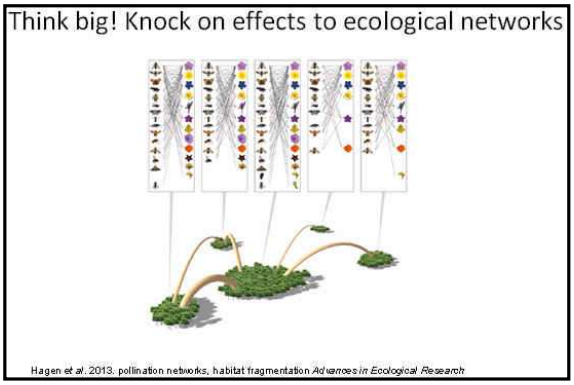


Session on deforestation and conservation

Reducing deforestation rate to lowered carbon emission as well as the loss of biodiversity is still a first environmental priority.
The study conducted in collaboration between **GAR**, **The Forest Trust**, and **Greenpeace**, aims at mapping high carbon stock land to identify potential conservation area, based on a stratification of the ground vegetation cover.



The next challenge will be to decide what size and shape of patches for conservation, based on connectivity and risk assessment.
The presentation made by **Dr Matthew Struebig** seems to show that the science is still missing to make an easy decision. It looks like most sizes and forms are all contributing to biodiversity conservation.



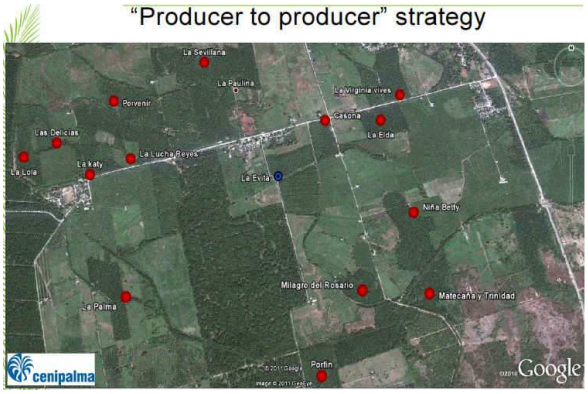
Connectivity is most certainly a key factor to consider, although more research is still recommended, with priority to riparian areas. This becomes an urgent issue to solve; as the use of the "principle of precaution" that we are currently asked to adopt for these area, results in potential delays of development, including for smallholders, and may affect dramatically opportunities for these small farmers to get additional income that would help them to meet they basic needs for food, health and education of their children at schools or universities.

The final objective of oil palm development, like other Agriculture development, is to be integrated economically, environmentally and socially in the landscape. And this is the objective of **Conservation International** project in North Sumatra. Working with local government, local communities and the private sector (both large and small producers), the project is based on the implementation of Strategic Environmental Assessment.

Monitoring and management of conserved will be made easier using the tool developed by **Zoological Society of London**.

Session on Smallholders

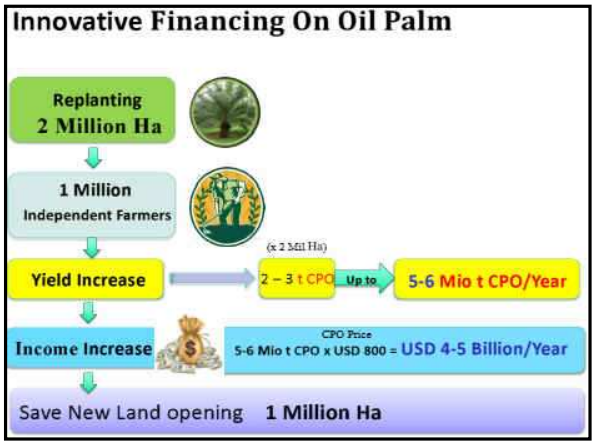
The general evidence about a significant productivity gap between large plantation companies and smallholders has attracted most attention during the last decade. It was one of the focus of Icope 2014, in line with the decision with UN to declare 2014 the year of family farming. The phenomenon does not seem to be country specific, as it is found in countries such as Indonesia, Colombia, and in Ivory Coast. The common factors identified related to this situation are the use not certified planting material, low input of fertilisers, and poor agronomy education and extension services while this culture is relatively new (compared to other crops) in Colombia and in Indonesia, thus requiring a certain level of expertise and support.
This situation has called for action-plans with 3 different approaches, either through an industry initiative (the producers themselves have taken the initiative and are in charge of its implementation) such as in Colombia, or a public-private approach such as in Indonesia and in Ivory Coast. In Indonesia, the project has been initiated by the authorities, but implemented by large plantations companies, while in Ivory Coast, a private public institution (ANADER) is dedicated to such an activity.



Sanz – Cenipalma

The methodology used for the dissemination of the results also differs between countries, where Colombia as adopted an approach based on the implementation through a certain number of leaders, who in a second phase disseminate information about best practices to their neighbours. In Indonesia, a more drastic approach has been chosen: replanting low productive area.

Indonesia, in line with their strategy to develop a strong family oil palm activity since the beginning of oil palm development in the 80', is still at the front of actions in favour to smallholders. This time, the innovation is coming from KADIN (the Indonesian Chamber of Commerce) itself with its proposed "innovative financial system for smallholders" (presented by the Vice Chairman for Agribusiness and food of the Chamber of Commerce of Indonesia), adding a very interesting financial solution to the human resource capacity and technical issues.



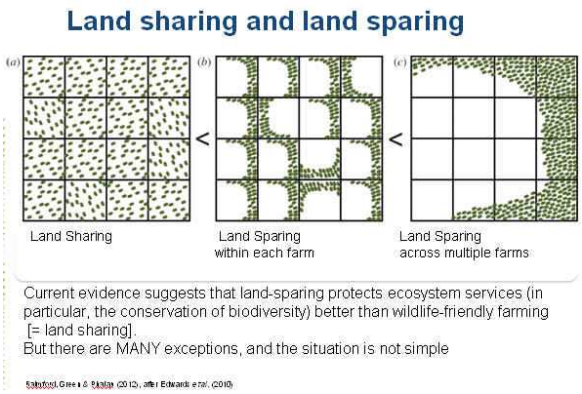
FO Widjaja – Kadin

The results presented **Dr. Sanz Scovino** from **Cenipalma** in Colombia are quite promising in terms of improvement of productivity, as well as palm sanitary condition, a sensitive issue in this country, is quite significant.

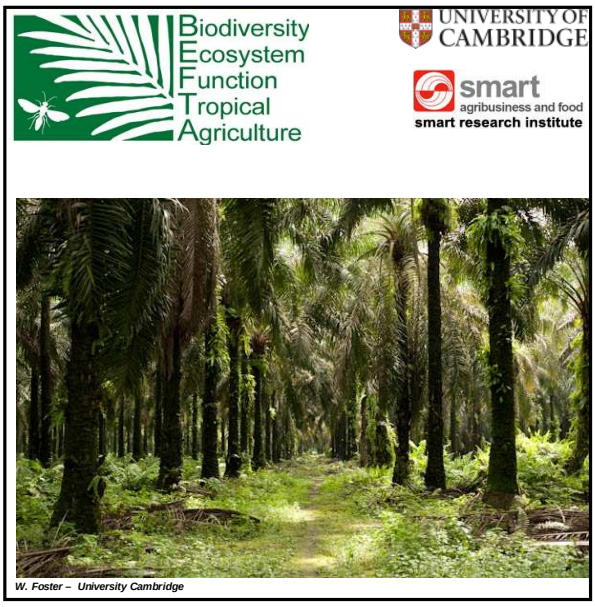
The analysis of such impact will be soon supported by the multidimensional assessment grid of sustainability, currently in development in **Cirad**. This study is based on an intensive survey to small size producers in Sumatra. However, the current main uncertainty is related to the size of the samples (number of farmers) surveyed in order to cover a representative variability of situations.

Session on Ecological Intensification

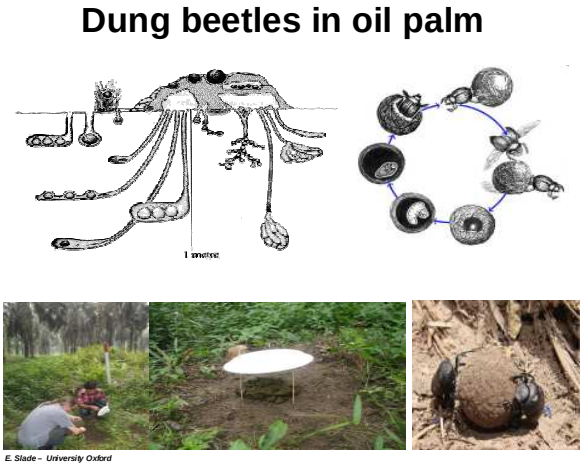
The ecological intensification concept to improve the productivity of the palms now seems to be quite generally accepted as a pertinent approach to be implemented for Agriculture to reach sustainability. While many of the practices applied in oil palm cultivation are actually based on such approach, more can be done and finally benefit the industry.



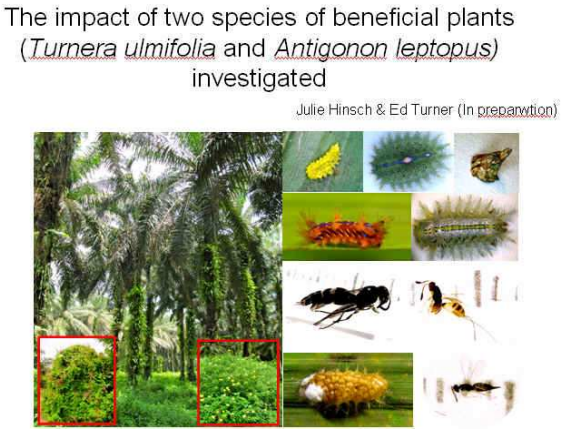
We had an important presentation about biodiversity and ecological services by **Dr W. Foster** from the university of Cambridge (UK)**: The Biodiversity & Ecosystem Function in Tropical Agriculture (BEFTA)** Project, which Dr W. Foster called "towards more bio-friendly oil palm" appears to be very positive an promising for both scientific and the practice point of view. It gives opportunity to many scientific studies, with an holistic approach.



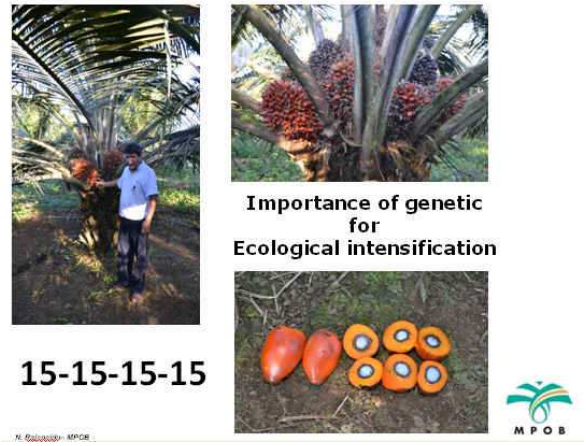
Dr. Eleanor Slade, from the University of Oxford (UK), gave us a flavour of the potential interest of cattle grazing to increase the biodiversity and soil fertility in oil palm plantations. Dung beetles deserve more research.



The role of integrated pest management is further studied in the 2 papers presented respectively by **Dr. Mohd Naim** from Smartri (Indonesia) and **Dr. Ed Turner** (UK) from the University of Cambridge. The presence of small carnivores to control the population of rats in plantations deserves attention, while the impact of beneficial plants such as Antigonum and Turnera, to contribute to the control of herbivories, despite several studies done in the past, provides additional information that could lead planters to adjust their practices.

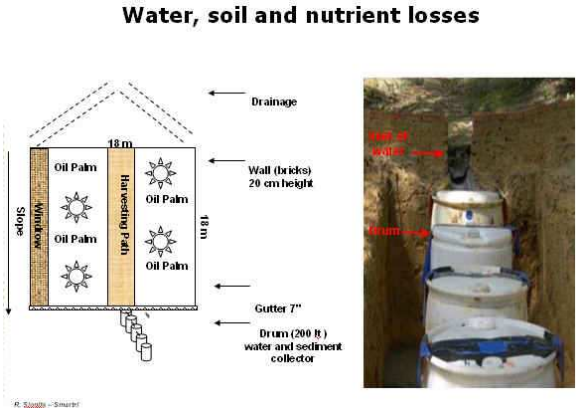


Ecological intensification is the Agronomy approach, environmental sounded, for increasing productivity. It is based on the utilisation and conservation of ecological services provided by ecosystems. The contributing domains include Breeding, Agronomy, and Plant protection. Continuous and long term yield improvement relies on the genetic diversity of the palms. **Dr Rajainadu** from MPOB (Malaysia), did an extensive review of this diversity, based on collections built by MPOB, as well as other public and private companies. The diversity seems to be quite significant in most key aspects requested for future improvement of the oil palm characteristics: yield, oil quality, growth for harvesting facility and mechanisation, low input cultivation, resistance to diseases, ...



A successful application of the utilisation of this diversity to maintain oil palm cultivation in area badly affected by bud rot disease in Ecuador was presented by **Dr Julian Barba** from Palmar del Rio in Ecuador.

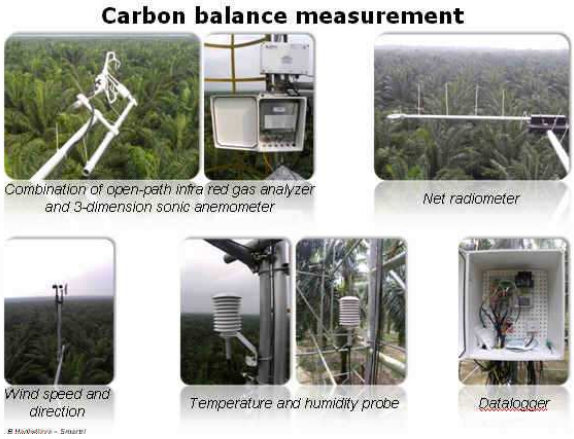
In agronomy, **Mrs Ribka Sionita** from Smartri (Indonesia) managed to quantify the effect of weed management/bare soil, in various land slope conditions. Soil and nutrient losses by erosion and/or run-off have been quantify, and open the door to a future modelling of the phenomena, which in turn could be used by the farmers. It confirms the importance a proper management of the ground vegetation cover in order to minimize soil degradation and nutrient losses.



Session about Green House Gas

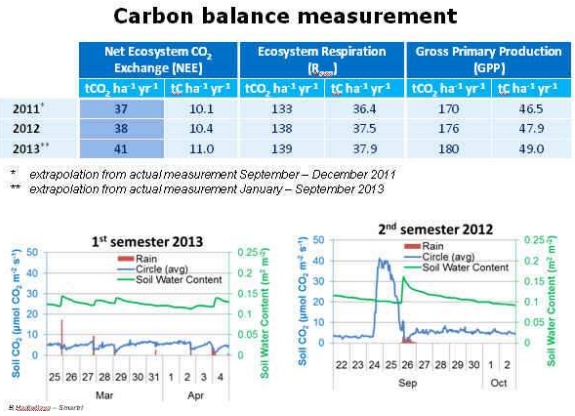
Green house gas is attracting researchers as well as mills. While the second ones are finding technical solutions with financial interest, from methane trapping (by **Pt REA KalTim,** (Indonesia)) to the production of biodiesel by **Neste Oil** (Singapore) researchers are looking for ways to measure the global GHG balance.

Dr Lulie Meling teams from theTropical Peat Research Laboratory (Malaysia), as well as **Mr Bram Hadiwijaya** from Smartri (Indonesia) are using advanced micrometeorology approaches (eddy covariance).



The measurements made in Sumatra by Bram show an 11 tonnes of carbon fixed by the oil palm agro-system every year. One interesting point is that the value seems to be site specific (depending of planting material vegetative performance) opening the door for the use by plantation, in the GHG calculator, of data different from the traditional default values.

In addition to this, such approach, very scientifically based, open the door to new findings with probable impact in terms of future practices evaluation and proposition.



It allows for example to quantify the actual emissions related to fertiliser applications.

Session about Certification

During the last session, the six panellists have discussed about the possibility for a convergence of the various systems of certification for sustainable oil. It was reminded that there are currently several certification systems (RSPO, ISPO, ISCC, MSPO). While it seems rational having several certification schemes for the same product, it is not reasonable, in the medium term, to have several audits for the same indicator; especially at an era where efficiency is so important, at a time when we must avoid wastes (waste of time, waste of human resources, waste of money, …).

We could recommend for these certification schemes to undertake a process of convergence, at least a partial convergence, which would result in an unique audit for these indicators that describe the same criteria, although each certification schemes could then adopt a different scoring system (except maybe for these indicators related to Security, Safety, Health, and some key indicators related to environment).

The issue for smallholder certification is still raised.

Finally, Patrick Caron came back to us for a final presentation, to conclude with a paradigm of new agriculture, ie the multi-functionality of agriculture. We must agree that what is now asked to farmers is not limited to producing food, but also protecting

the planet. And this has a value; this will certainly discussed at next Icope.

2 – Conclusion and recommendations

Conclusion 1: oil palm, a model

Oil palm is on track to become a model for tomorrow's sustainable agriculture

Conclusion 2: smallholders and science

A high attention should be given to smallholders in term of scientific research. We recommend adding some science straight at the beginning of the implementation of each project related to smallholders, for example when developing a rehabilitation project, so that an appropriate analysis of the efficiency of these projects is confirmed; and we need to have based-line in order to evaluate impacts.

Conclusion 3: environmental studies

Two scientific studies must be initiated as soon as possible:

- the role and efficiency of riparian area
- the size and shape of conservation patches.

Conclusion 4: Ecological intensification

We can encourage these studies:
in breeding, to tap in the genetic diversity of oil palm, as a certain level of solution to sustainability lies there (yield, oil quality, growth for harvesting facility and mechanisation, low input cultivation, resistance to diseases, ... adaptation to climate change ?)

Conclusion 5: Convergence if certification scheme

Icope could be a forum to discuss about this important matter. Such an evolution, ie a certain level of convergence between the current and maybe the future additional certification schemes, is important in the medium and long term to place the farmer in a position to focus on the implementation of best practices? Such a positive move will certainly NOT be made at the expense of the objective of the certification regarding sustainability, nor at the expense of the institution or authority to whom the certification scheme "belongs to".

Bali, Denpasar, 14th February 2014

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