



PPR SELTAR



Workshop on Sustainability of Natural Rubber in the 21st Century

Current status and future Outlook

October 15th to 18th 2014 - Vientiane, Laos

The workshop on Sustainability of Natural Rubber in the 21st Century – Current status and future Outlook, took place in Vientiane, Laos from October 15th to 18th, 2014.

This workshop (WS) was hosted by the National University of Laos (NUoL) and the Department of Agricultural Land Development (DALAM) from the Laos Ministry of Agriculture and Forest. Around 90 participants participated to this event, who originated mainly from Asian countries (Lao, Thailand and China) but also from developed countries, such as France, Germany, and the USA. The WS was co-organized and funded by several projects linked to research on rubber plantations in SEA such as the French Institute of Research for Development (IRD, via two main partnerships tools the PPR SELTAR (<http://irdseltar.wordpress.com>) the LMI LUSES project (www.luses/ird.fr), the Hevea Research Platform in Partnership (<http://hrpp.ku.ac.th>), the Project on “Sustainable Rubber Cultivation in the Mekong Region – SURUMER” (<https://surumer.uni-hohenheim.de>) and the Green Rubber Project (GRP, World Agroforestry Centre (ICRAF), GIZ project #13.1432.7-001.00).

Natural rubber plantations play an important role in Southeast Asia as an economic, social and politic contributor. Rubber plantations also have a large effect on the environment, including soil and water sustainability and biodiversity. These impacts need to be addressed and evaluated at a regional scale, which constitutes the aim of this event. The other goals of this WS were to initiate a connection between the main projects working on this theme in the Greater Mekong Subregion (GMS), define state of the art of research on sustainability of natural rubber production in the GMS and identify options for future collaborative research and potential interventions.

The first day of this four day workshop started with an official welcome ceremony. The welcome address was conducted by representatives of the hosting institutions, including NUoL and NAFRI. It was followed by an informative keynote presentation by Professor Silinthone (NUoL) on socio economic aspects of Lao agriculture with a special emphasis on rubber plantation.

The second day started with short presentations of the rubber research initiatives in the Mekong region (SURUMER, GREEN RUBBER) together with a presentation of the different partnerships tools of IRD (LMI LUSES AND PPR SELTAR) and CIRAD (HRPP). The rest of the day was devoted to two main thematic (i) water and carbon dynamics in rubber landscapes, introduced with a keynote presentation by F. Gay from CIRAD on CO₂ fluxes and net primary production, and (ii) rubber management and soil biological functioning, introduced with a keynote presentation by A. Brauman from IRD on the impact of agricultural practices on soil biodiversity.



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The third day was dedicated to two further plenary sessions; (i) modeling the impact of climate change and land management on latex yield, livelihoods and ecosystem services, introduced with a keynote presentation by Rhett Harrison (GRP) from ICRAF on rubber impacts on ecosystems and ecosystem processes, and (ii) socio-economic impacts and stakeholders, which was the longest session of the meeting with 13 presentations. This session was introduced with a keynote presentation from Professor J.M. FOX from University of Hawaii, who gave an overview of the expansion of rubber in mainland Southeast Asia.

The last day consisted of a group meeting comprising 25 representatives from participating rubber research projects and institutions dedicated to the development of proposals. This resulted in three proposals which will be submitted to different funding agencies (EU, ABD etc.).

In summary, this WS considerably exceeded the expectations of the organizers. All the participants noticed the high scientific level of the presentations and the potential of synergies between the different projects involved at the GMS scale. This WS will contribute in the near future to the development of future collaborative research that will better define more sustainable rubber management options in this GMS area.

As an immediate action, the organizing institutions agreed to set up an exchange platform covering ongoing research activities on rubber in mainland SE Asia. This platform will promote scientific exchange at a regional level, enable scaling up of interventions through the participating national level extension agencies, and coordinate the release of policy briefs at a regional level. In addition, it is hoped that the platform can provide opportunities for training and capacity development.





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Agenda

Wednesday, October 15

12:00 - 15:00: Registration at Lao Plaza Hotel

15.00 - 16.00: Opening of Rubber-WS

- Welcome by MC Dr. Lampheuy Kaensombath and Savitree Sriratampai (NUOL and LDD-IRD)
- Welcome address of Assoc. Prof. Dr. Silinthone Sacklokham
- Presenting objectives of WS (member of the organizing institutions)
- Official opening by the president of NUOL and Director of NAFRI (or its representant)

16.00-16.45: Key Note lecture of Assoc. Prof. Dr. Silinthone Sacklokham

17.00 - 18.30: Welcome Cocktail at Lao Plaza Hotel

Thursday, October 16

08:30 INTRO-SESSION: Rubber Research Initiatives in the Mekong Region (20min.)

1. SURUMER-Sustainable Rubber Cultivation in the Mekong Region. G. Cadisch & G. Langenberger (University of Hohenheim, Germany)
2. Green Rubber- An integrated system approach for agricultural intensification and conservation in the Mekong Region. J. Xu & R. Harrison (KIB/ICRAF Kunming, China)
3. The LMI LUSES- A regional project in partnership on the impact of Land uses on Soil Ecosystem services. A. Brauman (IRD, UMR ECO&SOLS, Thailand) and N.Suvannang (LDD, Thailand)
4. The Hevea Research Platform in Partnership in Thailand (HRPP) - Challenges of Natural Rubber Production, Developmental Issues & Questions to Research. P. Thaler (CIRAD, HRPP, Thailand)
5. PPR SELTAR - A Regional Priority Program on soil, water & littoral in Southeast Asia. C. Valentin (IRD, UMR IESS, France)

10:10 Coffee Break

10:30: SESSION 1: WATER AND C- DYNAMICS IN RUBBER LANDSCAPES

Chairman: Thaler Philippe (CIRAD) and Pheng Sengxua (DALAM)

Introductory lecture (15+5)

GAY, Frédéric (CIRAD, HRPP) and Chompunut, Chayawat (KU, HRPP): CO₂ fluxes and net primary production (NPP) of rubber plantations



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Invited speakers (15+5)

1. YANG, Xueqing: Carbon storage potential of rubber plantations of different age and elevation in Xishuangbanna (SURUMER)
2. LANG, Rong: Respiration in rubber plantation and rainforest indicate different processes during the rainy season (SURUMER)
3. LIU, Hongxi: Effect of water erosion and land management on the soil carbon stock of intensive rubber plantation in Xishuangbanna (SURUMER)
4. PANSAK, Wanwisa: The effects of converting Hillside Cropping Systems to Hillside Rubber (*Hevea brasiliensis*) Plantation on Erosion in Northern Thailand (Naresuan University)

12:10 Lunch

13:30: SESSION 1: WATER AND C- DYNAMICS IN RUBBER LANDSCAPES (cont.)

5. ROBAIN, Henry: Is it important to study soil variability to address the eco-system services of rubber tree plantations? (IRD/LUSES)
6. DO, Frédéric & Isarangkool Supat: Water use typology in rubber tree genotypes and consequence on C dynamics and sustainability. (IRD/Khon Kaen University/ HRPP)
7. PIERRET, Alain: Deep rooting patterns of rubber trees: results from a regional survey along a pedo-climatic gradient in Southeast Asia (IRD/LUSES)

14:30 Coffee Break

15:00: SESSION 2: RUBBER MANAGEMENT AND SOIL BIOLOGICAL FUNCTIONING

Chairman: BRAUMAN Alain (IRD)

Introductory lecture (15+5)

BRAUMAN, Alain: Impact of Agricultural Practices on Soil Biological Functioning in Rubber Plantations

Invited speakers (15+5)

1. PEERAWAT, Monrawee: Rubber tree impact on soil functional biodiversity, a case study in Chachaengsao in Thailand (IRD/LUSES)
2. SHI Ling Ling, Peter Mortimer and Jutamart Monkai: Impact of *Hevea brasiliensis* on soil fungal diversity (ICRAF)

16:00 Coffee Break

3. SUVANNANG, Nopmanee: Introducing a legume cover crop in hevea plantations - a way to achieve sustainability of rubber plantations in marginal areas?
4. GOLDBERG, Stephanie: Measurement of rubber impacts on Green House Gas emissions



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17:05 End of Day 1

Friday, October 17

08:00: SESSION 3: MODELLING IMPACT OF CLIMATE CHANGE & LAND-MANAGEMENT ON YIELD, WELFARE AND ECOSYSTEM SERVICES (ESS)

Chairman: Georg Cadisch (University of Hohenheim) and Jianchu XU (KIB/ICRAF)

Introductory lecture (15+5)

Harrison, Rhett: Review of rubber impacts on ecosystems and ecosystem processes (ICRAF)

Invited speakers (15+5)

1. LACOTE, Régis and Chantuma, Pisamai: Physiological bases of latex production and tapping management. Consequences for adaptation to climate change. (CIRAD/RRIT/HRPP)
2. THALER, Philippe: Specific issues to model rubber tree functioning and latex yield. (CIRAD/HRPP)
3. SOPHARAT Jessada, & DO, Frédéric : Lessons from the use of a simple model to simulate transpiration of rubber trees along a climatic gradient (PSU/IRD/HRPP)

09:20 Coffee Break

4. BLAGODATSKY, Sergey: Simulation of rubber development and latex production with the model LUCIA (Land Use Change Impact Assessment) (SURUMER)
5. HAMMECKER, Claude & Siltecho, Siwaporn: Modeling Soil water dynamics in Rubber Tree plantation (IRD/LUSES)
6. WIESEHAHN, Jens: Improved mapping of rubber (Univ. of Göttingen)

10:20 Coffee Break

10:35: SESSION 4: SOCIO-ECONOMY AND STAKEHOLDERS

Chairman: Assoc. Prof. Dr. Silinthone Sacklokham (NUOL) and Fox J.M (East-West Centre Hawai'i)

Introductory lecture (15+5)

FOX J.M. & CASTELLA J.C.: Expansion of rubber (*Hevea brasiliensis*) in Mainland Southeast Asia: What are the prospects for smallholders?

Invited speakers (15+5)

1. KEOKHAMSAO Phoukeo. Adapted livelihood strategies of smallscale rubber plantations in Luang Nam Tha Province, Lao PDR.
2. WAIBEL, Hermann (with Min, Shi and Jikun, Huang): Long term income risks for small scale rubber farmers in Xishuangbanna, China (SURUMER)
3. ANGTONG, Suthipong. The Rubber replanting aid fund in Thailand (ORRAF).



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4. CHAMBON, Bénédicte: Diversity of rubber farms in Thailand.

12:15 Lunch

13:30: SESSION 4: SOCIO-ECONOMY AND STAKEHOLDERS (cont.)

5. LANGENBERGER, Gerhard: Rubber intercropping – trends and perspectives (SURUMER)
6. JONGRUNGROTE, Vichote. Agroforestry systems and farm viability in southern Thailand
7. THALER, Philippe. The Sustainable Rubber Initiative (SNRi) of the International Rubber Study Group (IRSG).
8. WANG, Jue and AENIS, Thomas: Stakeholder analysis in sustainable regional development project: Experience from rubber cultivation in SW China (SURUMER)
9. CANET, Mélanie: The rubber value chain and its challenges in Luang Namtha Province (GIZ Laos)

15:10 Coffee Break

10. SOPHEAVEASNA, Mak. Issues of rubber development in Cambodia. Questions for research (CRRRI).
11. FLIT MERTENS, Charlotte; SCHMIDT-VOGT, Dietrich: Differentiated access to forest resources in rubber dominated landscapes (ICRAF)
12. NGUYEN, Quyen: The GMS Core Environmental Program – Contributions to sound environmental management (ADB)
13. ANGULO, Rafael: *Newsoil, a project to be submitted to the H2020 call for proposal of the EU.* (CNRS, France).

16:45: DISCUSSION AND CONCLUSIONS

- Synthesis of major findings: “The future of NR in the 21st century”

18:00: Closure ceremony

Saturday, October 18 (internal organizer meeting)

Writing of a pre-proposal (invited participants only).



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Participants List

No	First name	Family name	Institute
1	Alain	Pierret	IRD
2	Alain	Brauman	IRD
3	Amphai	Darasouk	NUOL
4	Anousone	Saiyalatn	NOUL
5	Beedou	APHAISO	NOUL
6	Benedicte	Chambon	CIRAD
7	Chanthasone	Khamxaykhay	DALAM
8	Charlotte	Flit Mertens	ICRAF
9	Chitpasong	Kousonsavath	NUOL
10	Chompunut	Chayawat	KU
11	Chris	Flint	TABI
12	Christian	Valentin	IRD
13	Christian	Hartmann	IRD
14	Chua	Kating	ICRAF
15	Claude	Hammecker	IRD
16	Coroline	Savin	IRD
17	Didier	Orange	IRD
18	Dietrich	Schmidt-Vogt	ICRAF
19	Francois	Guegan	WWF
20	Frank	Enjalric	CIRAD
21	Frederic	Gay	CIRAD
22	Frederic	Do	IRD
23	Georg	Cadisch	SURUMER
24	Gerhard	Langenberger	SURUMER
25	Henri	Robain	IRD
26	Hongxi	Liu	SURUMER
27	Jate	Sathornkich	KU
28	Jean-Christophe	Castella	CIRAD
29	Jean-Louis	Janeau	IRD
30	Jeff	Fox	EWCH
31	Jemxay	Tangseksanh	TABI
32	Jens	Wiesehahn	Univ of Gottingen
33	Jens	Wiesehahn	Univertsity Goettingen
34	Jessada	Pattaralerpung	KU
35	Jessada	Sopharat	KU
36	Jiading	Zhou	Beijing Uni
37	Khamchane	Singmixay	NUOL
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40	Kridtiyaporn	Wongsa	CMU
41	Kumut	Sangkahasila	KU
42	Lampheuy	Kaensombath	NUOL
43	Lang	Rong	SURUMER
44	Latsany	Phakdisoth	Leaning Facility
45	Lingling	Shi	ICRAF
46	Mai	Maithaphone	NOUL
47	Mak	Sopheaveasna	CRRRI
48	Maliphone	Douangphachank	NUOL
49	Manisorn	Ananta	RRIT-DOA
50	Melanie	Canet	GIZ
51	Michel	Grimaldi	IRD
52	Monrawee	Peerawat	LDD
53	Natta	Takrattanasaran	LDD
54	Nattavadee	Sudchalieo	LDD
55	Nguyen	Quyem	ADB
56	Nopmanee	Suvannang	LDD
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58	Olivier	Girard	AFD
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62	Peter	Asmussen	GIZ
63	Pheng	Sengxua	DALAM
64	Philippe	Girard	CIRAD
65	Philippe	Thaler	CIRAD
66	Phimasone	Sisouvanh	NUOL
67	Phonethip	Banouvong	iwmi
68	Phonththasone	Sibounnavong	NUOL
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77	Saythong	Vilayvong	NUOL
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84	Suttipong	Angthong	ORRAF
85	Thipphasone	Luangaphay	VFI
86	Tian	Yaohua	Yunan inst of tropical
87	Vichot	Jongrungrot	KU
88	Vichote	Jongrungrote	KU
89	Vong	Nanhthavong	CDE
90	Waibel	Hermann	SURUMER
91	Wang	Jue	SURUMER
92	Wanwisa	Punsak	Univ. Naresuan
93	Xueqing	Yang	SURUMER