NEWSLETTER

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News - Forthcoming

- **World Congress on Agroforestry, February 10 - 14, Delhi, India**

Organized Session: "6.2 Ecology and Economics of Rubber-based Agroforestry", February 12

- **Natural Capital Project Annual Meeting & Training, March 26 - 28,**

Contribution: "Terrestrial Ecosystem Services modeled with InVEST in the "**Su**stainable **Ru**bber Cultivation in the **Me**kong **R**egion" project consortium (SURUMER)"
Participants: Joachim Sauerborn, Oliver Frör, Marc Cotter, Inga Häuser

- **IFSA 2014, April 1 - 4, Berlin, Germany**

Abstract accepted: "From information giving to mutual scenario definition: Stakeholder participation towards Sustainable Rubber Cultivation in Xishuangbanna, Southwest China"

Conference contributions and meetings

SURUMER	Tropentag 2013, September 17-19, Hohenheim, Germany Read more…
PMC	ESP Conference 2013, August 26 - 30, Bali, Indonesia Read more…
SP3	35. IAHR World Congress, September 8 - 13, Chengdu, China *"The influence of fine sediment input induced by rubber cultivation on the substratum composition of a river bed"* by Lydia Seitz& Silke Wieprecht
SP9	International Conference on Sustainable Natural Resource Management in Rural China – Governing markets?, August 26-28, 2013, Nanjing, China *"Rubber Farmers' Environmental Awareness and Attitude toward Local Ecosystem Protection in Xishuangbanna, Yunnan Province"* by Min Shi, Junfei Bai, Hermann Waibel and Jikun Huang
SP7 / PMC	XTBG Scientific Seminar, Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences (CAS), Menglun, Mengla 07.08.2013: "*Integrated water resource management and PES - a case study from Xinjiang*". Prof. Dr. Michael Ahlheim (SP7) 20.08.2013: "*Challenges in Land-Use Change Modeling – Linking Upland/Lowland interdependencies and human interactions*". Prof. Dr. Georg Cadisch

Scientific Topics

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Grandmother- elephant shares donated bananas

PMC activities in Jinghong

In August PL Prof. Dr. G. Cadisch (PL) accompanied by PMC-TL Dr. G. Langenberger and several other SURUMER team members visited our research region for supervision of field activities and contact talks with stakeholders and partners.

On August 15 a delegation of six persons (PL, PMC, SP1, SP3, SP5) headed by Prof. Cadisch presented the SURUMER-project to representatives of the Jinghong Prefecture Government. The meeting was facilitated by Ms. Minguo Li-Margraf from the TianZi Biodiversity Centre, Jinghong. Besides Prefecture Vice President Mr. LI Guozheng, representatives of six prefecture government units (Science and Technology Bureau, Research Office, Forestry Bureau, Bio-production Office, Xishuangbanna Nature Reserve, Rural and Social Development Office, Science and Technology Bureau) were present. Mr. LI Guozheng laid out his vision of Xishuangbanna as a place of a harmonious coexistence of man and nature. He therefore welcomed any contribution from SURUMER to achieve this vision. Both sides therefore agreed to further elaborate the exchange.

August 24-26, a SURUMER-delegation consisting of Prof. Cadisch, Dr. Langenberger (PMC, SP5), Dr. Li (formerly SP5) and Dr. Aenis (SP8) visited Hainan Islands for talks and excursions with representatives from the Hainan State Farm Group (Da Gong Ba and Bangxi State Farm) as well as Hainan University.

Pic. 1 - Supervision of field sites

Pic. 2 - Presentation of SURUMER goals and visions to Banna Prefecture Government

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New office inaugurated

The new project office within the NRWNNR compound in Jinghong was inaugurated in October 2013. It has two rooms and access to an additional storage room. A laboratory room - currently under construction- will also be accessible soon.

The address of the office is as follows:

Naban River Watershed National Nature Reserve Management Bureau,

19 # Yuan Lin Avenue, Jinghong City, Yunnan, China. 666100

Pic. 3 - Opening of new SURUMER- office in Jinghong

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ESP Conference in Bali

From PMC, Marc Cotter and Inga Häuser participated at the Ecosystem Service Partnership Conference 2013 in Bali, Indonesia. Since the organizers provided a lot of time for workshops there were a lot of possibilities to engage in discussions and interact with others. This made the conference very lively. And of course the conference venue at The Pan Pacific Nirwana Bali Resort Hotel was very comfortable with delicious food!

One key message we can share:
So far there are only very few projects which assess such a wide variety of ecosystem services in one project as we do in SURUMER!

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Introduction of SURUMER to the Scientific Steering and Monitoring Committee

In the frame of the Tropentag Conference 2013, the Scientific Steering and Monitoring Committee was invited to Hohenheim to meet the whole consortium of SURUMER.

During several presentations of each Subprojects and fruitful discussion on 18th and 19th of September, the committee members were introduced to the current status of the project.

Pic. 4 - Subprojects presenting the progress of their work

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Soil and Erosion Investigations:

From June until October SP1 continued sample collection from soil erosion plots to estimate soil loss and runoff production of rubber plantation during the rainy season.

Pic. 5 - Throughfall collector installed in mid-age rubber

Pic. 6 - Stemflow collector installed in old rubber

Throughfall and stemflow collectors were installed in old and mid-age rubber plantation to estimate rain interception from rubber canopy. Overlooking photos were taken of each erosion plot to estimate the ground cover. *(SP1)*

Pic. 7 - Trying to capture the overlooking photos of soil erosion plot

Pic. 8 - Overlooking photo taken in old rubber

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Rainy season and flood

A flood event around August 12 destroyed the monitoring station P4 near ManFei. Having great luck all probes are still working and also the metal frame was found 600m downstream of the station.
The station was rebuilt on the other side of the old bridge column because here the flow is less powerful and the probes are protected from the main flow.

Pic. 9 - Destroyed Monitoring Station P4 after flood (left) and functional Monitoring Station P4 (right)

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Measurements after rainy season

After the water level dropped down between middle of September and beginning of October new measurements could be conducted in Naban River. At the study site P2 at DaNuoYou five sediments samples with the Freeze-Core technique were successfully taken.

Pic. 10 - Setting up of Freeze-Core

Comparing the data from sieveanalysis with the data gathered from the last measuring campaign in spring 2013 conclusion about the morphological changes of the study site can be made. The monitoring station at P4 near ManFei measuring the water level was broken and could be fixed within this stay from September to October. Due to construction work and changes in the river course at P4 no measurements were conducted at this study site. *(SP3)*

Pic. 11 - Impression of the morphology in the research area

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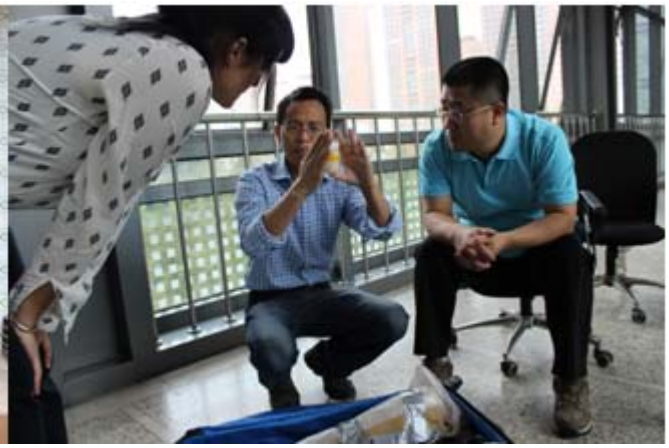
Productive cooperation of SP4 bears fruits – discovery of a new bee species!

The big field survey of SP4 could be successfully completed by the end of July 2013. Subsequently, land use gradients within a radius of 600 m around each study site were recorded (see Fig.1) and we could conduct our short interviews with local farmers about their management strategies of rubber plantations with the great help of Mr. Ai Zai Lie from NRWNNR (see Fig.2). Our applied collecting methods were quite appropriate and we collected around 2500 bees and 19136 other insects from various groups.

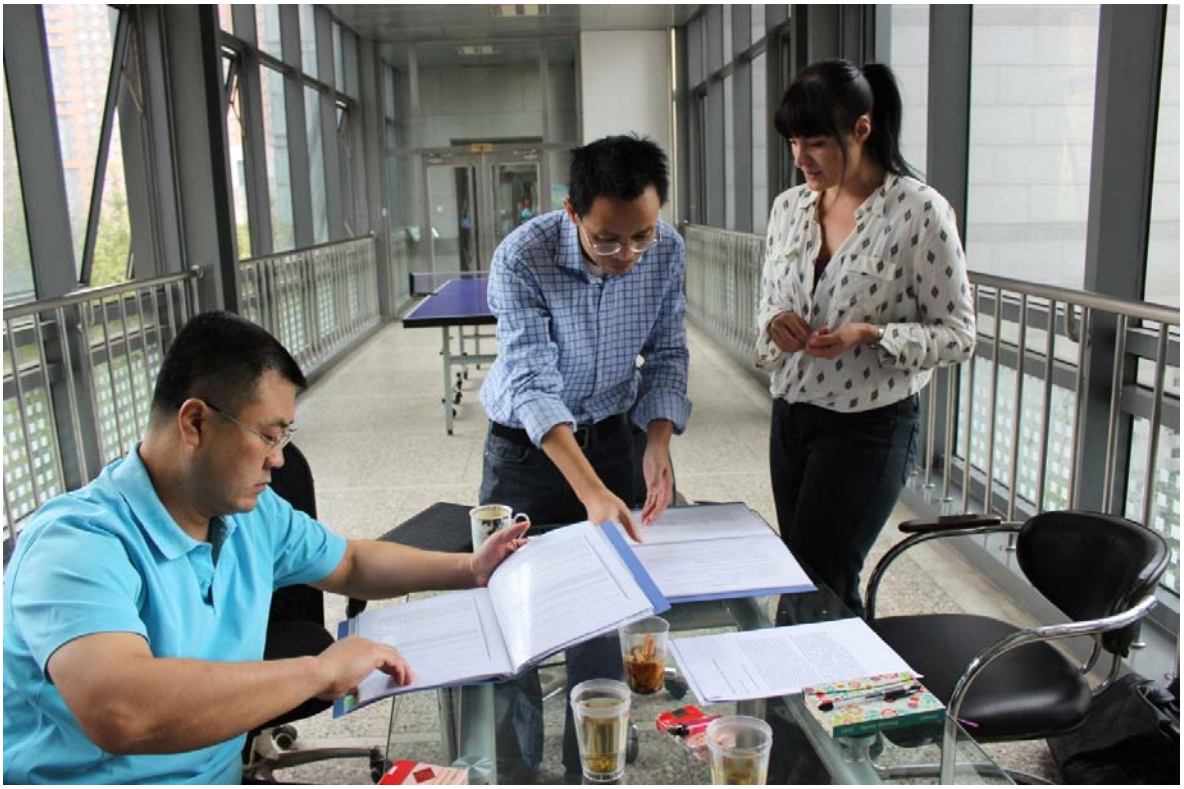
Pic. 12 - After an interview of a local farmer about management strategies of rubber plantations with Mr. AI Zai Lie



Pic. 13 - Prof. ZHU Chao-Dong and Prof. NIU Ze-Qing are checking the bee samples in Beijing

After sorting and preparation, all bee samples were transferred by train by our assistant HE Yuan to our partners in Beijing, the expert team of Prof. ZHU Chao-Dong from the Institute of Zoology, Chinese Academy of Science, for further species identification. First results can hopefully be expected in spring 2014. All other insect samples were transferred to LIN Meiying from the National Zoological Museum of China in Beijing.

In October 2013 Mrs. Pia Oremek and her assistant He Yuan had a pleasant meeting with the experts from the Institute of Zoology to discuss about the progress of 2013, further procedure and future cooperation of SP4 (see Fig.3 and 4). Both were really excited to be introduced to Mr. WANG Dasheng, the vice-chairman of China Green Food Association and vice-chairman of Alliance for Green Food Agriculture in China, who joined the meeting. SP4 can also announce some amazing news: The productive cooperation and teamwork of SP4 achieved already great results with the discovery of a new bee species from NRWNNR!! It is the first discovery of individuals of this genus in whole China and it is also a totally new species. The species description is already accepted and we are all looking forward for the final publication in the renowned journal Zootaxa.



Pic. 14 - Signing of hand over certificates and data exchange between the experts from IOZ and Pia.

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Aquilaria as potential intercropping plant for rubber plantations

My thesis and the investigations about Chinese Eaglewood are part of the evaluation of Aquilaria as potential intercropping plant for rubber plantations.

The main task of my fieldwork was divided into two parts:

The first part was to measure the Chinese Eaglewood trees of two plantations, one is near Mandian village and the other is next to NABAN-station.

Pic. 15 - Aquilaria Plantation near Mandian Village

Quantitative aspects, like height and diameter (DBH), were just as interesting as qualitative features as the form of the stem or appearance and health of the whole tree. Also interesting for my work were the slope positions of the individual trees in the plantation and the degree of shading by other trees.

I got great help from Bounsing, my assistant, who already helped other subproject-teams, too.

The second part was like a little adventure.

Mr. Yang, the guard of the Chinese Eaglewood plantation and the Exhibition Center in Mandian, Bounsing and me took off to a virtually untouched woodland. I was searching for some old trees, to analyze the growth performance and population's structure in natural stands, as well as the regeneration which is pretty interesting. To determine the regeneration rate, we searched for young trees around the mother trees.

I finished my field work after two really interesting, exciting and instructive weeks. Now, I'm looking forward to prepare the data, draw up my Bachelor's thesis and finish it within the first weeks of 2014.

My Bachelor thesis is done under the supervision of Dr. Gerhard Langenberger. *(Philipp Baisch, SP5)*

Pic. 16 - Bounsing, Mr. Yang and Philipp Baisch at work

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SP6 work progress and first results

SP6 finished interviews and land-use analysis in Southern Thailand. A total of 180 questionnaires to 103 males (57%) and 77 females (43%) were conducted in local language with the help of a translator around the Tai Rom Yen National Park. Most of respondents considered faming as the most important income source and for 83% of farmers rubber was the most important income generating crop. The surroundings of the protected area are rubber dominated; however, in certain areas other cash crops such as Durian or Rambutan are abundant as well.

Disease was the main cause of loss in rubber yield in all regions but almost a third of respondents had also problems with wildlife. Out of the 180 interviewed farmers, more than a fifth experienced damages caused by elephants with the northern part of Tai Rom Yen being most affected. Almost half of all interviewed people felt in danger from elephants. Elephants damaged 1104 rubber trees in the last few years, most of which were younger plants of up to 5 years old. Less than 10% of the damaged plants were older than 5 years. *(SP6)*

Pic. 17 - Banana-planning committee with representatives from the Department of National Parks, the Golden Triangle Asian Elephant Foundation (GTAEF) and SP6. Bananas for the elephant – and for the wild boar.

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Current activities

Currently, we assess wildlife diversity inside the forest and outside in the farmland by walking 1km trails and transects and recording wildlife or signs of wildlife. In addition, camera traps were installed all around the border of the park and species found so far include elephants, macaques, porcupines, badger, mouse-deer, wild boar, civets, rats and squirrels. *(SP6)*

Pic. 18 - Young elephant bull captured in one of our camera traps.

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Elephant funeral and other field work stories

Sad end for a crop-raiding elephant at the Tai Rom Yen National Park in Southern Thailand: a female animal was electrocuted while trying to enter a farm close to the forest. Made us think that we should be more careful while walking our transects in the farmland – and climbing under and over fences. Well, walking carefully is always a good idea…

Pic. 19 - Elephant funeral: The female animal died while trying to enter farmland outside of Tai Rom Yen National Park

Some better news involve our old semi-wild elephant lady who was shot last year while walking in farmland but recovered through the help of the rangers who fed her supplementary food. Unfortunately they were running out of money for the lady's bananas but we could help to establish the contact to the Golden Triangle Asian Elephant Foundation (GTAEF) and they stepped in as banana-donors. So our Grandmother-elephant does not need to go hungry and can continue to roam around happily for a bit longer.

Pic. 20 - Bananas for the elephant – and for the wild boar.

Fences, flooding and an armada of mosquitoes and leeches as well as ants and scorpions in our camera traps were challenges for our field work but at least the heavy rain was a good preparation for German (field) conditions. *(SP6)*

Pic. 21 - Heavy rain and flooding made it sometimes difficult to collect our camera traps

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First village heads focus group discussion

On November 5 the first village heads focus group discussion was held successfully in Mandian Education Center in NRWNNR. There were six village heads from six different villages namely Banqiandi, Mandian, Manlei, Naban, Chachang and Panbing, two staffs from NRWNNRB, and four participants from SURUMER. Farmers' problem and problem perceptions were discussed concerning topics about water, soil, wild plants and animals, pollination service and so on which are closely linked to SURUMER's focus. Then farmers expressed their expectations for future which was mainly maintaining the rubber cultivation system now and implement some other activities such as intercropping if it could bring extra benefit. At the end they went through the measures of three scenarios given by SURUMER researchers, and provided their feedback of those measures. Village heads showed interests in such kind of discussion and expected some implementation measures from our project. *(SP8)*

Pic. 22 - Village heads discussing problems and expectations of rubber cultivation systems

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Second Regional Stakeholder Workshop

On December 2, SURUMER second regional stakeholder workshop was held successfully in Mandian Education Center in NRWNNR with great support of NRWNNRB. Participants were from Xishuangbanna government bureaus, enterprise, research institute and villages.

The workshop started with the reflection of the last workshop. A problem discussion followed in order to deepen the results from last workshop. The reflection and discussion were mainly focused on the impact of rubber on Xishuangbanna regional level in terms of economic, environmental and social aspects, and the policy orientation in future. Then the participants split into two groups to discuss more specific issues on value chain and water respectively. After group discussion, participants exchanged ideas about the possible future of Xishuangbanna region in plenary, and their interest and suggestions for the upcoming workshops. *(SP8)*

Pic. 23 - Workshop participants in Mandian Education Center

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Socio economic survey of rubber cultivation in Xishuangbanna from 6th to 26th March, 2013

A large scale socio economic survey of rubber cultivation organized by Subproject 9 (Microeconomic analysis) has been conducted successfully in Xishuangbanna from March 6 - 26, 2013. Prof. Waibel, Jan-Henrik Meier, Shi Min (Institute of Development and Agricultural Economics, Leibniz University Hannover) and Dr. Junfei Bai et al. (Center for Chinese Agricultural Policy, Chinese Academy of Sciences) participated at the field survey.

The survey instruments consisted of a village level and a comprehensive household questionnaire including information on household characteristics, different farm- and non-farm income sources, shocks experienced and expected risks. A rubber module that included detailed information on inputs and outputs over one entire production period on a plot level is central to the survey.

In total, the survey covers over 600 rubber farmers among 42 villages of 8 townships in 3 counties of Xishuangbanna. Database collected from the survey will be the important foundation of microeconomic analysis on rubber cultivation. It also will provide useful quantitative information of rubber farmers for the scenario analysis of rubber cultivation in Xishuangbanna. Currently, the data is in the cleaning process.

Pic. 24 - All enumerators of socio economic survey of rubber cultivation in Xishuangbanna

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Tropentag 2013 - Given Presentations

Wednesday, Sept 18, 4.00-5.30pm;
SURUMER-presentations during the oral session „Tree crops and plantation trees“

- **Cadisch G. et al.: “**An integrated modeling approach to determine environmental services and trade-off effects under land use change”
- **Martin K.: “**Rubber cultivation in Mainland Southeast Asia: dimension and potential consequences for crop production”
- **Waibel H. et al.:** “Socio-Economic Aspects of Rubber Cultivation in Southern China”
- **Aenis T. et al.:** “Sustainable rubber cultivation in Southwest China: Approach to stakeholder involvement and dialogue”

Thursday, Sept 19, 8.30 - 9.30am;
SURUMER- presentations during poster Session „Tree crops and plantation trees II”

- **Gerhard Langenberger**: Rubber Agro-forestry Systems
- **Hongxi Liu:** Soil and Carbon Loss Within Watersheds Affected by Rubber Cultivation in Xishuangbanna, South-West China (presented by S. Blagodatskiy)
- **Inga Häuser**: Assessment of Ecosystem Services and Conflict of Goals in Rubber Cultivation via InVEST
- **Michael Ahlheim**: Welfare Economic Valuation of a Sustainable Rubber Production in Southeast Asia
- **Sergey Blagodatskiy**: Carbon Stock Changes Evaluation in Naban River National Nature Reserve using Rapid Carbon Stock Appraisal

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