

News - Forthcoming

- [IFSA 2014](#), April 1 - 4, Berlin, Germany

Abstract, submitted by SP8, accepted: "From information giving to mutual scenario definition: Stakeholder participation towards Sustainable Rubber Cultivation in Xishuangbanna, Southwest China"

Conference contributions and meetings

SURUMER

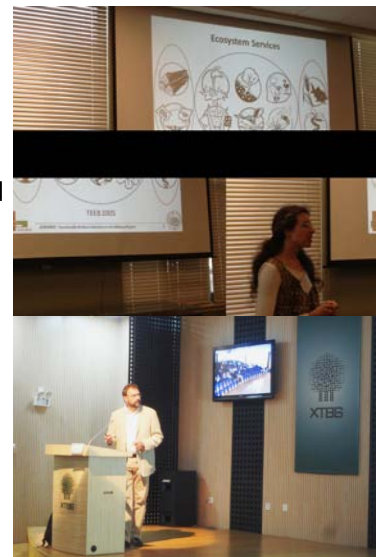
- [World Congress on Agroforestry](#), February 10 - 14, Delhi, India

Organized Session: ["6.2 Ecology and Economics of Rubber-based Agroforestry"](#) (Feb 12)

PMC

- [Natural Capital Project Annual Meeting & Training](#), March 26 - 28, San Francisco, California

Contribution (oral): "Terrestrial Ecosystem Services modeled with InVEST in the "Sustainable Rubber Cultivation in the Mekong Region" project consortium (SURUMER)"



Pic. 1 and 2 - Prof. Asch and Inga Häuser giving presentations at XTBG / Annual Meeting

SP2

- [Seminar Xishuangbanna Tropical Botanical Garden, Chinese Academy of Science](#), February 25, China

Seminar title (oral): "Atmospheric conditions as modifiers of abiotic stress responses in plants"

SP3

- **28. Trinkwasserkolloquium "Zukünftige Herausforderungen für die Wasserversorgung - Vom Klimawandel über die Demografie bis hin zur Organisation"** February 13, Stuttgart, Germany

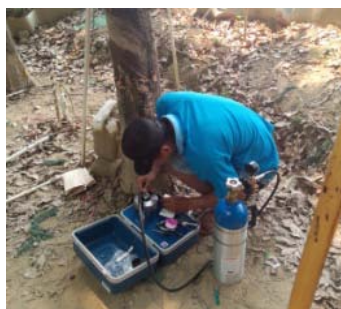
Contribution (Poster): "Online Monitoring in einem von Kautschuk geprägten tropischen Wassereinzugsgebiet", "Mitigation Measures with stakeholder Involvements"

SP6

- [GTÖ- Annual Conference of the Society for Tropical Ecology](#), February 25 - 28, Munich, Germany

Contribution (oral): Rubber versus elephants: Conflicts of human land-use and wildlife habitat in Southern Thailand

Scientific Topics



Project Evaluation completed

[Read more...](#)

Model- Group News

[Read more...](#)

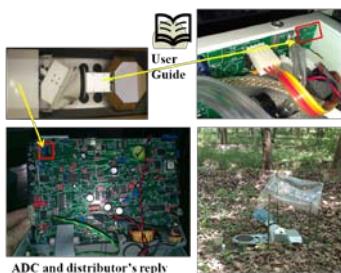


Business-as-usual- and *Go-green-Scenario* (based on LILAC data) published

[Read more...](#)

Soil respiration measurements continue

[Read more...](#)



Evidence collected by litter traps

[Read more...](#)

SP2 - Data collection will be continued until Dec 2014

[Read more...](#)



Bee and honey collections in the new season

[Read more...](#)

Trial sites selected and plans elaborated for SP5

[Read more...](#)



Footprints and animal dung help to identify present animals

[Read more...](#)

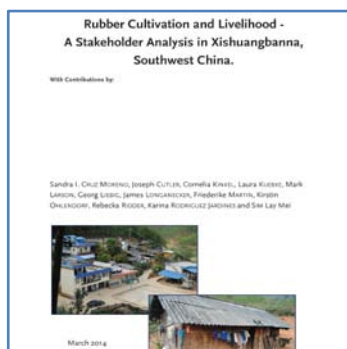


Dissertation of Dr. Tang Lixia published

[Read more...](#)

Provincial Stakeholder Workshop conducted

[Read more...](#)



In-depth Stakeholder Interviews finished

[Read more...](#)

Baseline Survey Report Published

[Read more...](#)

A Story of Science



Yunnan rubber tapping contest

[Read more...](#)

Project Evaluation completed

The Evaluation of the SURUMER project by DLR and two reviewers representing the funding organization BMBF was completed by an external evaluation tour to our Field sites in Xishuangbanna, China from 15th to 17th of March 2014.

Thanks to the great support of our local partners from KIB and NRWNR and the joint effort of all project members the evaluation and the overall project development and integration were very positively recognized.



Pic. 3 - Dr. Langenberger, leader of SP5, presents status and activities of SP5 'Agro-ecological diversification'

Pic. 4 - Prof. ZHU and Dr. LIU, Institute of Zoology, Beijing, present results of the cooperation with SP4 in the SURUMER field station in the Naban River Watershed National Nature Reserve'.

[back to top](#)



Model- Group News

The model group meets regularly (once or twice a month, depending on availability of group members). The core team of Inga Häuser (PMC), Sergey Blagodatskyi (SP1) and Maren Burkert (SP3) was complemented by Yang Xueqing and Lang Rong (both SP3) whenever possible and Marc Cotter (PMC) whenever necessary.

Processing of soil data from the Beijing Normal University (BNU) is completed- if you need soil maps concerning soil organic matter, bulk density, porosity, gravel content, root abundance, cation exchange capacity, total phosphorus and/or total nitrogen content of Xishuangbanna soils (raster scale 30 arc-seconds, approximately 1 km at the equator). Concerning climate data the model group is currently working with a global climate map (WorldClim, monthly averages, raster scale 30 arc-seconds, approximately 1 km at the equator) and daily data from the Jinghong Airport meteorological station. The data is available upon request and freely accessible at:

<http://www.tutiempo.net/clima/JINGHONG/569590.htm>.

Currently the model group is working on consistent input data on agricultural management for all models.

If you are interested in the mentioned data sets, please contact Inga Häuser or join a model group meeting! We appreciate further data recommendations and would be happy if you would share preliminary data from your subprojects!

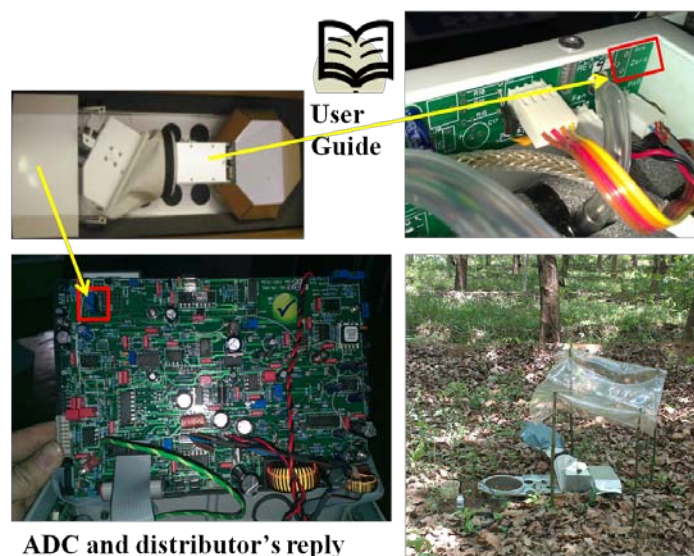
Business-as-usual- and Go-green-Scenario (based on LILAC data) published

Two reference scenarios for the NRWNNR based on data collected during the Lilac-project are finally published. Until scenarios of SURUMER are available these scenarios can be used for model purposes. You can find the data including reference in the readme.txt on OpenIlias (» [3.1.3.4. Maps land use scenarios NRWNNR](#)).

[back to top](#)

Soil respiration measurements continue

Soil respiration finally could be continued in this March after portable equipment was repaired. One ACE did not do the measurement a week before the evaluation, after checking it simply needed adjusting the zero point, but we found out there was no such component on the position described in the manual! After several days communication the ADC company and its distributor in Beijing provided the information where they moved the zero potentiometer to, now it is working in the field. Another ACE station is still waiting for repair, it was damaged after two weeks usage in the rubber plantation last year, rain in Xishuangbanna was too much for it. *(Lang Rong, SP1)*



Pic. 5 - Repairing ACE equipment



Pic. 6 and 7. - Flowering rubber with new leaves

Evidence collected by litter traps

Rainfall is always an important limiting factor for agriculture crops' yield, so does rubber plantation. In Naban National Nature Reserve, the first spring rainfall started on 21st, Mar. 2014, however, the local rubber farmers are not as happy as before. Excluding rainfall, they also witnessed a high intensity, short duration hail in Amaxinzhai. This heavy hail had damaging effect on newly grown rubber leaves and flowers, moreover, this event is heterogeneous and locally based, evidence could be found in litter traps and ground. This time litter traps collected not only naturally falling litter, but also litter from external force. (Xueqing Yang, SP1)



Pic. 8 and 9 - Litter traps collected litter from hail effect

[back to top](#)

SP2 - Data collection will be continued until Dec 2014

Data collection for old and young rubber trees and secondary rain forest started early 2013 and will go on until December 2014. January to March is a critical period for the measurements when leaves are shedding and later on flushing within few weeks (Picture 10 to 13). This is the first complete dry season we measured.



Pic. 10 and 11 - Shedding and flushing leaf



Pic. 12 - Leaf water potential measurement



Pic. 13 - Repairing sapflow sensors

Opportunity:

Interactions between sub-projects and between other scientists and member of XTBG are enhanced with informal meeting (Picture 14 to 16).



Pic. 14 - 16 - Gathering with other sub-project members and scientist from XTBG

Challenge:

Field work is always challenging in regard to the fact that all activities are mostly weather and device dependent.

When faced with strong stormy weather, rubber trees have shown sensitive responses by just breaking. It happened in August last year, when 2 out of 3 trees at the old rubber plantation we were concentrating on and where many sensors where attached, fell down. It leads us to chose new trees and move the whole set up (Picture 17 and 18)



Pic. 17 - Two rubber trees broken after stormy weather at the old rubber plantation.



Pic. 18 - Water logging during rainy season at the old plantation.

Additionally, there are also technical issues we have to face. When no manufacturer and technicians are found in China, devices have to be sent back to Germany for repair. That puts us in a situation that data are missing during the time when either sensors and/or loggers are absent. Fortunately, our cooperation with XTBG allowed us to borrow logger from South China Botanical Garden. This allowed us to perform measurement during critical period of the experiment (leaf flushing). (SP2)



Pic. 19 and 20 - Field visit with Prof. Asch, Sabine Stuerz, Ioana Petrova.

[back to top](#)

Bee and honey collection in the new season

With the beginning of the warm and rainy season in Xishuangbanna, many plant species develop their flowers and the main activity period of wild bees begins. There are two main activities of the pollinator subproject (SP4) in 2014. First, the recording of solitary bee species, which act as important pollinators for wild and agricultural plants in addition to honey bees (social species). Solitary bees show a great diversity of nesting habits. An approach for the analysis of solitary bee diversity and habitat quality is to introduce suitable artificial nesting substrates to encourage bees to nest in the constructions. In addition to the 2013 study on effects of different land use on bee diversity, the aim of this study is to identify high quality habitats for solitary bees for land use and management strategies. This study is conducted by Xiu-Wei Liu (Picture 21), a post-doc from the working group of Prof. Chao-Dong Zhu at the Institute of Zoology, CAS, Beijing.



Pic. 21 - Xiu-Wei and Pia collecting bees in the field (March 2014)

The second task of the pollinator subproject in this year is the collection of honey samples of the different honey bee species which are kept by the farmers (totally 10 species of social bees are used by farmers in NRWNNR, Picture 22 and 23).



Pic. 22 and 23 - Nest of *Apisflorea* (left) and a stingless bee (*Trigona* sp.) on the flower of *Citrus maxima* (Pomelo, right)

Beekeepers collect honey mainly in April/May. In honey, pollen represents a natural marker, indicating the plants on which bees foraged and/or visited and possibly are pollinated. The objective of this study is to identify the forage plant spectra of the different honey bee species in order to identify species-specific preferences, based on the proportion of pollen from different plant species in the honeys. This study will provide important information on the forage requirements of the different honey bees, which are necessary to develop land management strategies for the protection of important bee and plant habitats. In addition, pollen samples from the loads of solitary bees will be collected for the identification of the forage spectra of solitary bees. The pollen is also used for a new approach, a DNA-based pollen identification to identify the inventory of visited plants. This part of the study will be conducted by Douglas Chesters at the Institute of Zoology, CAS, Beijing. (SP4)

[back to top](#)

Trial sites selected and plans elaborated for SP5

Three pilot sites for the establishment of demonstration plots have been finalized within the NRWNNR: Naban, Aman Xi Zai, and Ban Qian Di. They represent an elevational gradient and thus the occurrence of rubber within NRWNNR. Each demonstration plot will cover the size of 15 mu or 1ha. Intercropping will consist of plants (shrubs and trees) selected due to their protective as well as use value but also based on management concerns. The demo-sites will be used for research activities, which will be coordinated especially with SP1 and the 'Green Rubber Project' led by our counterpart, Prof. Dr. Xu from KIB/ICRAF, Kunming. (SP5)



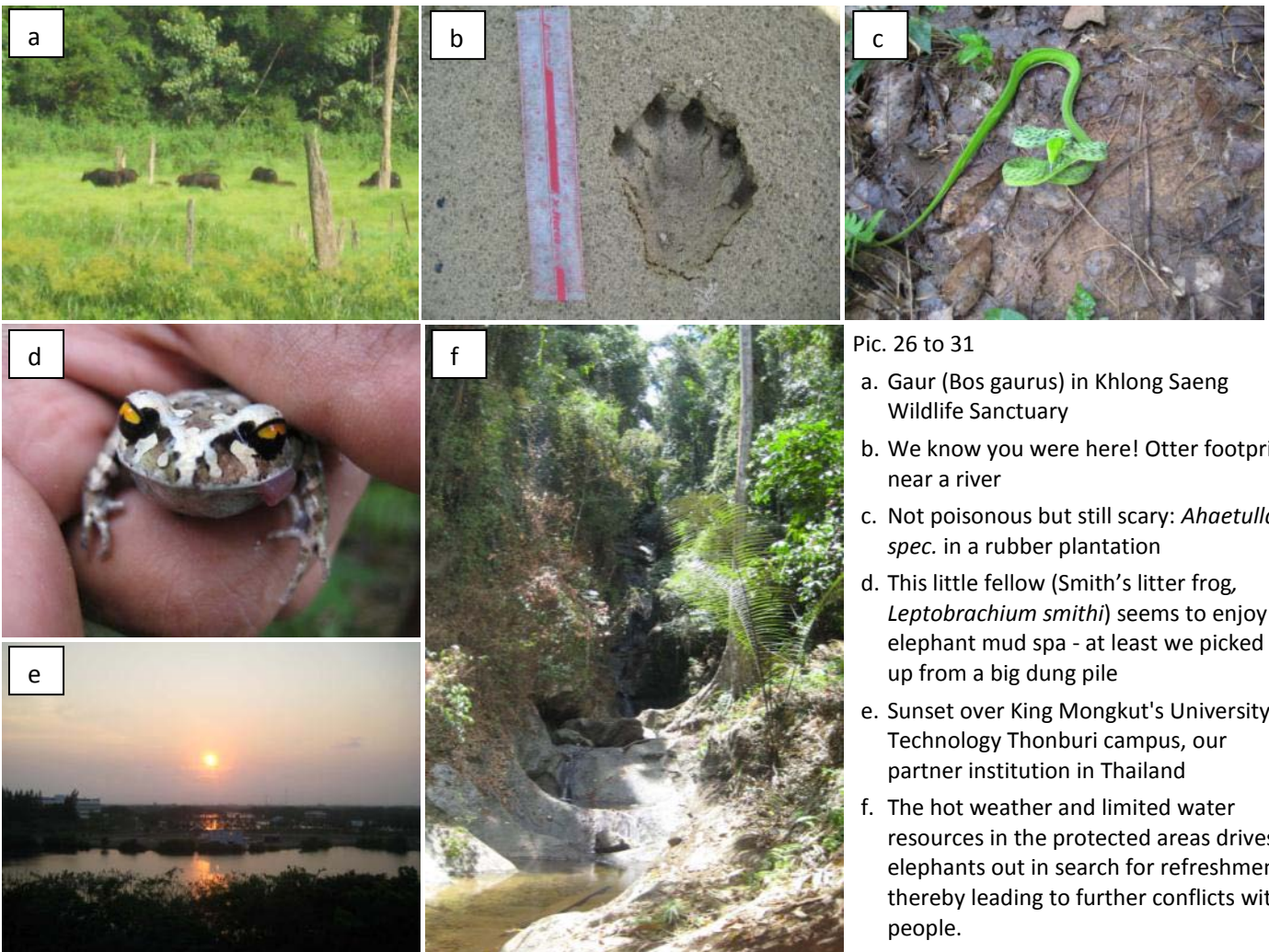
Pic. 24 - Mr. LI, director of the Naban River Watershed National Nature Reserve (NRWNNR), and Mr. LIU, director of the 'Research and Monitoring Department' within the NRWNNR, presenting the propagation of the intercropping plant '*Flemingia macrophylla*'

Pic. 25 - One of the plants intended for intercropping trials, a dipterocarp species

[back to top](#)

Camera traps and animal dung identify present animals

The next round of field work started for SP6 in March 2014, and in the coming months we will again set camera traps at the forest-plantation edge and walk hundreds of kilometers in search for wildlife dung and other welcomed findings of animal presence. We will compare their presence in rubber plantations and in the natural forest and analyze these data using occupancy estimations. Unfortunately, the political situation has become a bit more tense in Thailand but we hope everything will stay relatively calm from now on. Otherwise we'll take our hammocks into the forest and train our newly acquired forest skills – of course on a purely vegetarian base what might lead to riots among local assistants. So we very much hope for peace in the country. (SP6)



Pic. 26 to 31

- a. Gaur (*Bos gaurus*) in Khlong Saeng Wildlife Sanctuary
- b. We know you were here! Otter footprint near a river
- c. Not poisonous but still scary: *Ahaetulla spec.* in a rubber plantation
- d. This little fellow (Smith's litter frog, *Leptobrachium smithi*) seems to enjoy elephant mud spa - at least we picked it up from a big dung pile
- e. Sunset over King Mongkut's University of Technology Thonburi campus, our partner institution in Thailand
- f. The hot weather and limited water resources in the protected areas drives elephants out in search for refreshment, thereby leading to further conflicts with people.

Dissertation of Dr. Tang Lixia published

The dissertation of Tang Lixia, who collecting her data during LILAC project to gain a second doctor degree, has been published. The book can be found under the following link:

http://shop.margraf-publishers.net/index.php?id=842&no_cache=1&backPID=410&swords=tang&tt_products=1406

Provincial Stakeholder Workshop

Thanks to the great support from Prof. Xu Jianchu and his team in ICRAF, the first provincial stakeholder workshop has taken place in Kunming, 17th March 2014 with participants from government departments e.g. the Yunnan Environment Protection Department and the Yunnan Development and Reform Commission, from research institutes and from the WWF. The main topics were the progress report of SURUMER and stakeholders' feedback to our project, as well as a discussion on the perspective of future development for rubber in Xishuangbanna and Mekong Region. (SP8)



Pic. 32 - Participants of the Stakeholder Workshop during the project evaluation

In-Depth Stakeholder Interviews

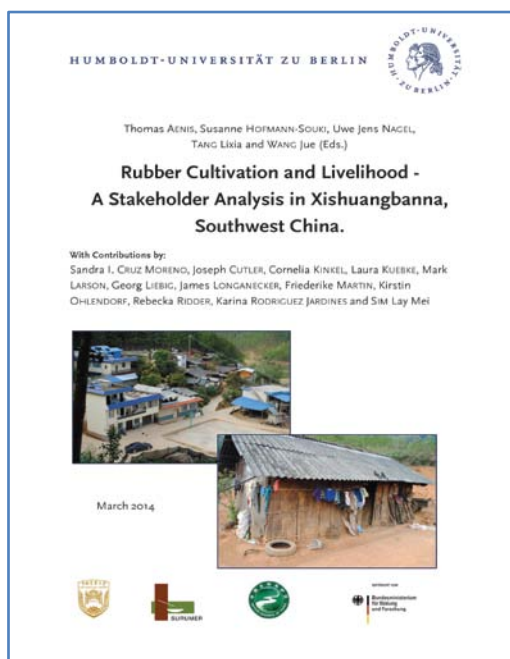
From January 2014, the first round of in-depth stakeholder interview has been carried out by Jue Wang (SP8). The semi-structured interviews with government staff and practitioners such as leaders of Jinghong Farm, village heads, farmers, etc. are focused on stakeholders' role and power, problem perceptions, interests, future expectations and communication networks. With respect to our overall methodology, the discussion on their interests and future expectations will be summarized and contribute to the scenario group as well as the discussion during stakeholder workshops, the next being a regional workshop in June. (SP8)

[back to top](#)

Baseline Survey Report Published

The report "Rubber cultivation and livelihood – a stakeholder analysis in Xishuangbanna, Southwest China" has been published by SP8 (online address following). It shows the results of the baseline stakeholder analysis carried out by an interdisciplinary student group of Humboldt-Universität zu Berlin and China Agriculture University in 8 villages in NWRNNR in March 2013. (SP8)

[back to top](#)



Pic. 33 - Cover of the baseline survey report

Yunnan Rubber tapping Contest

Excursion to Yunnan Rubber Tapping Competition

On 4th and 5th of March, Yunnan state farm rubber tapping competition was held in Jiangcheng Farm with participants from all the state farms in Yunnan province. Jue Wang was invited by Jinghong Farm and joined the excursion to the competition. (SP8)



Pic. 34 - Rubber tapping competition: Sharpening the knife



Pic. 35 - Rubber tapping competition: Tapping