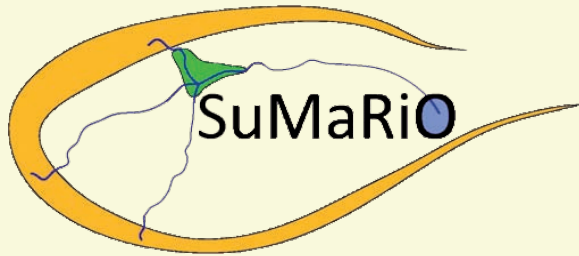


Sino-German SuMaRiO Implementation Conference



Implementation Strategies for a Sustainable Land and Water Resources Management in the Tarim Basin/NW China

Suggestions from SuMaRiO Project
- Stakeholders meet Scientists -

23. and 24. September 2015, CAS Urumqi



SuMaRiO (Sustainable Management of River Oases along the Tarim River) is a Sino-German research project, which started in 2011. The main research question of the involved scientists during this time was how to manage land use, i.e. irrigation agriculture and utilization of the natural ecosystems, and water use in a very water-scarce region. Under changing water availability due to climate change, the question is how ecosystem services and economic benefits can be maintained in the best balance for a sustainable development. This question is exceedingly crucial under the given and predicted future climatic conditions. Right from the start SuMaRiO focused on a transdisciplinary and participatory approach that recognised and involved local stakeholders' knowledge. Since beginning of 2015 SuMaRiO is in the final stage of its workplan, the implementation phase. The results and the generated knowledge of the different workblocks are being provided to the stakeholders to enable them to operate with that knowledge. Moreover the conference is aiming at an active knowledge exchange between scientists and stakeholders to enable both to further expand and improve the Decision Support System in excess of the SuMaRiO Project.

Programme

Sep, 23

10:00 **Welcome Addresses** Prof. Dr. Chen Xi (CAS Urumqi) , Prof. Dr. Markus Disse (TU Munich), Julia Kundermann (German Embassy), N.N.

Keynote Lectures:

10:30 'Centre of Arid Land Management'
Prof. Dr. Chen Xi, Chinese Academy of Science, Xinjiang Institute of Ecology and Geography

10:45 'Effects of Climate Change in Arid Landscapes'
Prof. Dr. Jiang Tong, National Climate Center, Chinese Meteorological Administration

11:00 'Changes of the cryosphere in the Tarim Catchment and its hydrological impact'
Dr. habil. Tobias Bolch, TU Dresden; N.N.

11:15 'Water Allocation Optimization along the Tarim River'
Prof. Dr. Markus Disse, TU Munich, Hydrology and River Basin Management

11:30 **Coffee Break**

We invite all colleagues to present a poster respective to the topic of the conference. All posters will be displayed at the conference venue all time long

Keynote Lectures (continued):

- 11:50 'Soil Properties and Soil Salinity in the Tarim Basin'
Prof. Dr. Zhao Chengyi, Chinese Academy of Science, Xinjiang Institute of Ecology and Geography
- 12:05 'Ecosystem Services and Land-Use Options in the Tarim Basin'
Prof. Dr. Bernd Cyffka, CU Eichstaett-Ingolstadt, Floodplain Institute
- 12:20 'How to identify solutions to environmental problems among stakeholders and scientists: Proposal for the design of participatory processes in Xinjiang'
Prof. Dr. Petra Döll, University of Frankfurt/M, Institute of Physical Geography
- 12:35 **Transdisciplinary Presentation** of the Decision Support System
Prof. Dr. Andreas Brieden, BW University Munich; Dipl.-Math. Marie Hinnenthal, BW University Munich; M.Sc. Yu Yang, TU Munich; Dipl.- Geog. Martin Kuba, CU Eichstätt; M.Sc. Phillip Huttner, TU Munich
- 13:30 **Lunch Break**
- 14:30 **Workshop Session 1: 'Stakeholders meet Scientists'**
-16:45
- Climate Change – Central Tian Shan's cryosphere and Xinjiang's rivers in future perspective
 - Water use and wood production of *Populus euphratica* forests
 - Integrating Ecosystem Services in land and water management
- 16:45 **Coffee Break**
- 17:15 **Workshop Session 2: 'Stakeholders meet Scientists'**
-19:30
- Sustainable water use, costs and financial incentives
 - Ecosystem Services in an infrastructure/urban perspective
 - Land use improvements and perspectives
- 20:30 **Conference Dinner**

*For further description of the workshop topics
see page 5*

Sep, 24

- 10:00 World Café (Prof. Dr. Petra Döll, Prof. Dr. Martin Welp)
- 12:00 Report of Workshop Leaders (Chinese and German colleagues together)
- 13:00 Report on Results of the World Café (Prof. Dr. Petra Döll, Prof. Dr. Martin Welp)
- 13:45 Closing Remarks and Outlook (Prof. Dr. Markus Disse, Pro. Dr. Chen Xi, N.N.)
- 14:30 **End of Conference**

Keynote Speakers



Prof. Dr. Chen Xi

Director of the Xinjiang Institute of Ecology and Geography of Sciences, CAS, Urumqi



Prof. Dr. Zhao Chengyi

Professor of Hydrology and Water Resources at the Xinjiang Institute of Ecology and Geography of Sciences, CAS, Urumqi



Prof. Dr. Jiang Tong

Professor of Climate Change and Hydrology of National Climate Center, CMA, Beijing



Prof. Dr. Bernd Cyffka

Head of Applied Physical Geography, Catholic University Eichstätt-Ingolstadt



Dr. habil. Tobias Bolch

Senior Researcher at the Department of Geography, University of Zurich- Irchel, Switzerland and at the Technical University Dresden



Prof. Dr. Petra Döll

Professor of Hydrology at the Institute of Physical Geography, University of Frankfurt/M



Prof. Dr. Liu Shiyin

Professor at Cold and Arid Regions Environmental and Engineering Research Institute (CAREERI), CAS, Lanzhou



Prof. Dr. Andreas Brieden

Head of Statistics/Risk Management, University of German Federal Armed Forces, Munich



Prof. Dr. Markus Disse

Head of Hydrology and River Basin Management, Technical University of Munich



Marie Hinnenthal

Junior Researcher, Statistics/Risk Management, University of German Armed Forces, Munich

Workshop Topics

Climate Change – Central Tien-Shan’s cryosphere and rivers in future perspective

Climate change impacts natural systems on a global scale. How will the climate affect Central Tien-Shan’s cryosphere and precipitation regime and thus the water resources? What consequences will arise from this change? Where are the chances in coping them?

Water use and wood production of Populus euphratica forests

The workshop will deal with two important factors that can affect the growth and biomass production of the trees, and the structure and water use of stands of *Populus euphratica*: (1) wood harvest by pollarding; and (2) the distance of the poplar stands to the groundwater, which is the only reliable water source of the poplar trees during their life cycle. The workshop aims at assessing the present-day importance of the poplar forests' ecosystem service of primary production, and at contributing to establishing a basis for developing management schemes for the local distribution of water.

Integrating Ecosystem Services in land and water management

Considering ecological costs in economic land and water management can help bridging the gap between economic and ecological needs. How can the concept of Ecosystem Services be brought in mind while deciding on land and water management issues? Which Services are important? Which are forgotten?

Sustainable water use, costs and financial incentives

Water is the main field for conflicts between economic actions and environmental protection. How could financial approaches help to release pressure on natural systems? To which degree would people be willing to contribute directly? What other water saving methods can be implemented?

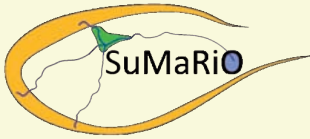
Ecosystem Services in an infrastructure/urban perspective

Ecosystems, man-made and natural, deliver services to peoples´ benefit. Especially in perspective of cities and infrastructural facilities these benefits becomes obvious. How can these services be maintained and improved? Are people aware of the benefits?

Land use improvements and perspectives

The Tarim Basin is an extreme desert environment. The advantage is that there is water available from other environmental zones. However the climate is adverse and the hazard of desertification and salinization is omnipresent. This asks for a wise use of water, while at the same time optimising the yield. A diversification of crops would allow a better stability. Any option of land use must fight against salinization. Improved irrigation methods may reduce water consumption and reduce salinization. Any land use change has to take environmental aspects into account. We offer agronomic and engineering solutions.

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Announcement

The Concluding Conference of the SuMaRio Project will take place in Munich, Deutsches Museum, December 10th and 11th, 2015!