

Integrated Water Resources Management for Adaption to Climate Change

Jinsha River 金沙江 **River of Golden Sands**

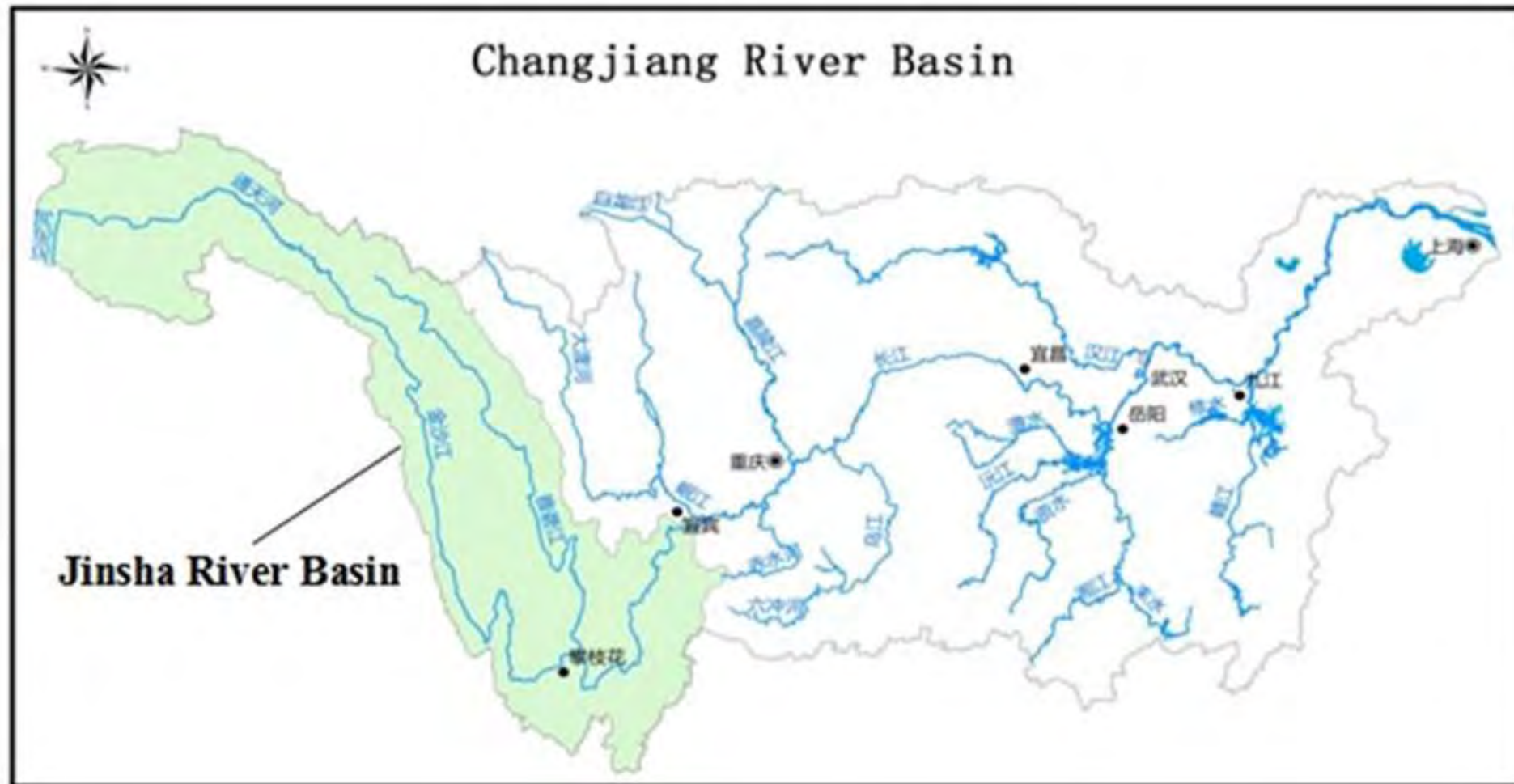
Hydrotec, Aachen, October 23, 2014



China

中国





Stop 1

Chengdu

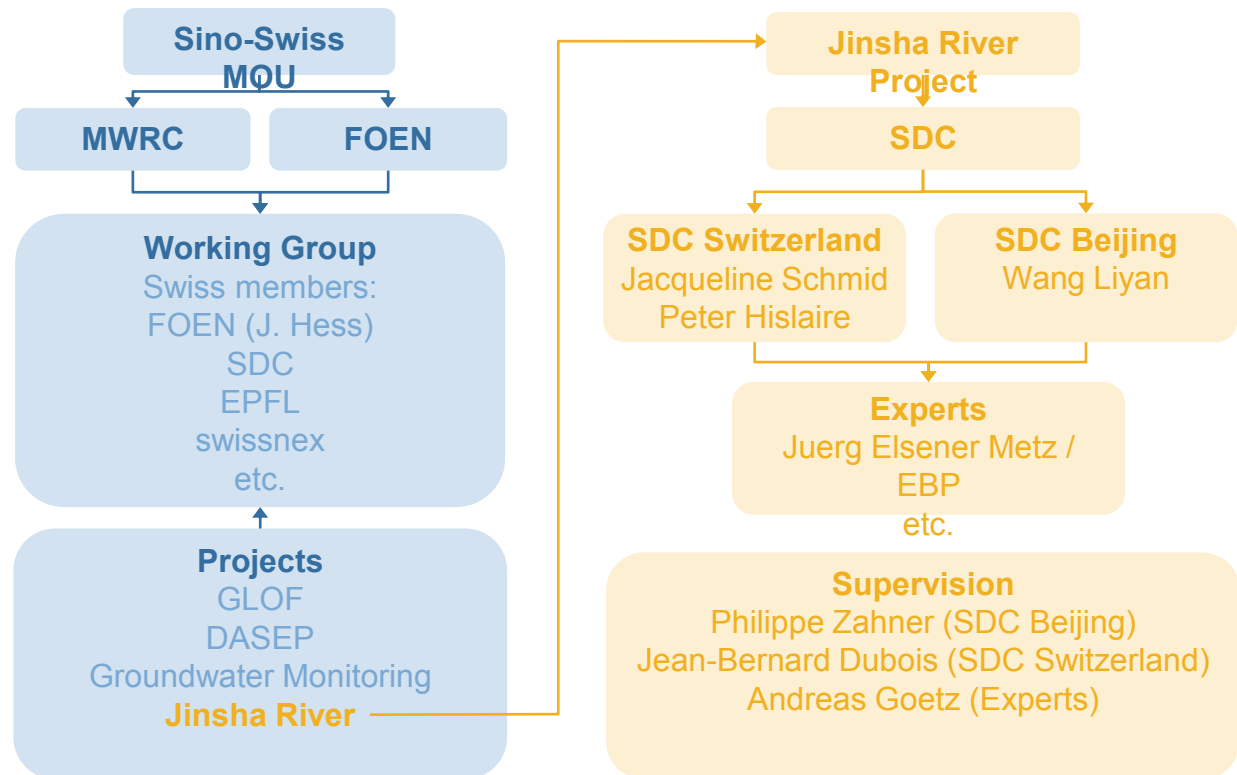
第一站

成都



Stop 2 Yibin

第二站
宜宾



Participants

- Yangtze Water Resources Commission
- Swiss Delegation
- Local Experts





Junction Min River / Jinsha River 岷江 / 金沙江

- Min River 50-years discharge: 30'000 m³/s
- Highest flood level marks in 2012 (left)

1st Project Meeting



Stop 3 Shuifu

第三站
水富



Xiangjiaba Hydro-power Station

- 1 of 4 stations
- Together 2x capacity of Three Gorges Dam
- Costs 50 billion CNY (8 billion CHF)





Roadtrip to Kunming

驱
车
去
昆
明



Roadtrip to Kunming

Stopover Huize

驱车去昆明

中途站会泽



Stop 4

Kunming

第四站

昆明

2nd Project Meeting
Kunming

Penal discussion Yunnan Water Resources Department

- Climate situation in Yunnan
- Natural hazard disasters
- Strategies and measures



Roadtrip to Dali

驱车去大理



Stop 5 Dali

第五站 大理



Er Lake

- Local water diversion project for agriculture
- In operation since 1994





Bai Zhu Minorities
at Erhai / Dali





Stop 6

Lijiang – Yangtze First Bend

第六站

丽江



Stop 7

Yulong Xueshan – Snow Mountain

第七站
玉龙雪山

Snow Mountain

- Valley station
3'356 m asl
- Visitor platform
4'506 m asl
- Visitor top platform
4'680 m asl
- Mountain peak
5'596 m asl





Snow Mountain

- **Glaciers and mountain springs** contribute strongly to water supply in the valley
Lijiang inhabitants 140'000 residents / 200'000 incl. temporary residents / 300'000 incl. tourists
- **3 parallel river catchments:**
Jinsha river (=Changjiang or Yangtze river)
Lancang river (=Mekong river, Er Hai (Dali) is tributary of Lancang)
Nu river (=Salween river)



Stop 8

Lijiang - Ancient Town

第八站

丽江古城





Black Dragon Pond Hei Long Tan 黑龙潭

- Strong **touristic attraction**
- Dried out in January 2013 due to sinking of groundwater level and running dry of natural springs (**drought** phenomenon)
- Minimum **groundwater** level at
- 17 m (July 2013)
- 6 m (September 2013)
new groundwater gauging station installed in November 2012, no water extraction e.g. for agriculture
- Last few years strong **decrease of precipitation**





Black Dragon Pond Hei Long Tan 黑龙潭

- **Artificial («man-made») fountain in Lijiang**
water supplied from Snow Mountain source, water supply for Lijiang city, at **water wheel** point in ancient city (left) distributed to **3 water flows**, wide distribution
- **«Water compensation areas»** in Snow Mountain area, divert water to several spots in the region, where water is short;
option for Hei Long Tan in the future.

Long-term Goal

To develop an **Integrated Water Resources and Risk Management Framework** for the Jinsha River Basin that takes account of the **impacts of climate change**, that is effective in **protecting life and assets**, contributes to the continuing **development of the Chinese economy** and that is a source of learning for **global climate change discussions**.

3-year Goal

Sino-Swiss cooperation to **design measures** to enhance the **water management practices** for the Jinsha river basin and to **adapt to climate change**.



**EBP
Contributions**

**Data Collection,
Catchment Water
Characteristics**

**Project Leading Unit, PLU,
Coordination of Swiss partners
Information Platform**

**Analysis historical
CC and its impact**

Future CC trends

Review of CC Scenarios

Climate Risks, Impacts

Impact analysis on water resources management

**Water allocation and
utilization**

**Extreme Events
(Floods, Droughts)**

**WR Planning Measures,
Water Allocation Model
WEAP**

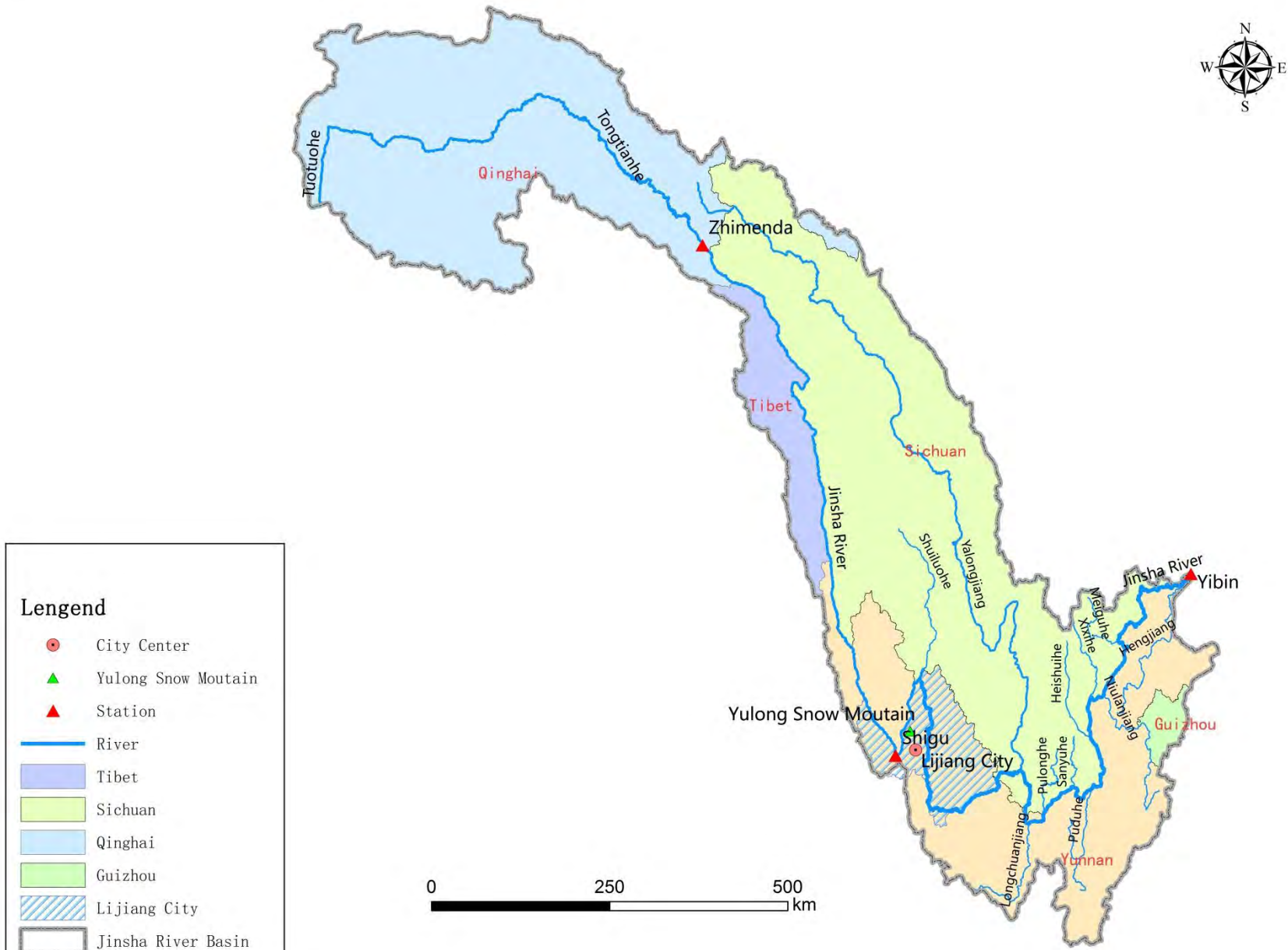
Risk Assessment, Risk Plan

Applications on WRM

**Climate Change Adaptation
Strategies and Measures**

**Reporting, Communication,
Dissemination, Website**

**Outputs:
Adaptation Measures & Strategies for IWRM**



The real
wrap-up
mEATing!



Saying Goodbye

再见



Outlook

- Contracts signed November 2014
- Project start December 2014
- End of Project 2017

Thank you!

谢
谢



