

**The Role of Science in Sustainable
Hydropower Planning:**
**Social Safeguards Perspectives on the
Lancang-Lower Mekong Cooperation**

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Sustainable Hydropower

By perspective

- Social sustainability
- Environmental sustainability
- Economic sustainability
- Financial sustainability
- Technical sustainability

By phases of Project cycle

- Planning
- Design
- Implementation
- Operation
- Close

Key factors of Social Sustainability of Hydropower Development

- Involuntary **resettlement** caused by land acquisition
- **Culture property** impacts and protection
- **Ethnic group**/ Indigenous people development
- **Poverty** reduction
- **Gender** development
- Public **health**
- **Participation, consultation** and grievance mechanism
- **Information disclosure and transparency**

Social issues is Key factor of Sustainable Hydropower

- Objectives of hydropower development
 - ✓ For the People, Nature and Food
 - ✓ For local, region, country and global sustainable development
 - ✓ For social and economic development
- Benefits sharing for all stakeholders
- Constraints by social and environmental impacts
- Social sustainability is one of most important goal

Involuntary Resettlement by Reservoir in China

- **1949-2016:**
 - **Dam induced 20 millions DPs directly**
 - **Post-relocation support: 27 millions (2016)**
- **Some big reservoir resettlement projects**
 - **Three Gorges dam: 1.3 millions DPs**
 - **Xiaolangdi Dam (WB): 0.2 millions**
 - **Danjiangkou Dam: 0.382 millions in 1950s-1970s by phase 1, 0.35 millions during 2009-2011 by phase 2**
 - **4 big dams in Lower Jinsha River: 0.35 Ms**

RR is most important for Hydropower

Xiangjiaba Dam and Suijiang County in upper Yangtze



移民群众与老县城依依惜别



Three Gorges Dam Project

The Largest hydropower plant in the world (22200 MW)

The largest resettlement by hydropower dam (1.3 million APs)



Three Gorges Dam

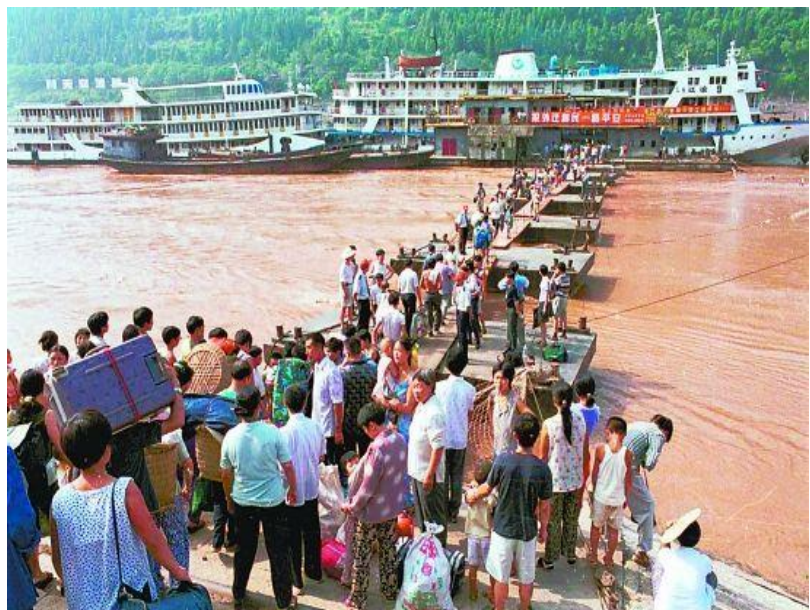
- **1.3 millions APs, 44% rural farmers and 56% urban citizen, in 2 provinces and 21 county/districts**
- **1,632 enterprises and 11 towns, 2 cities, 114 towns affected**
- **200,000 rural APs relocated with long distant in 11 coast or downstream provinces, others relocated within county**
- **resettlement budget 40 billions RMB, 44.6% of dam project budget (50 billions RMB) estimated in the price in May 1993 ,final budget 85.3 Billions RMB in the actual price**
- **All APs have been relocated before June 2009 smoothly**

Relocation out of province

三峡工程库区农村移民
外迁安置分布图









- In old villages

New villages

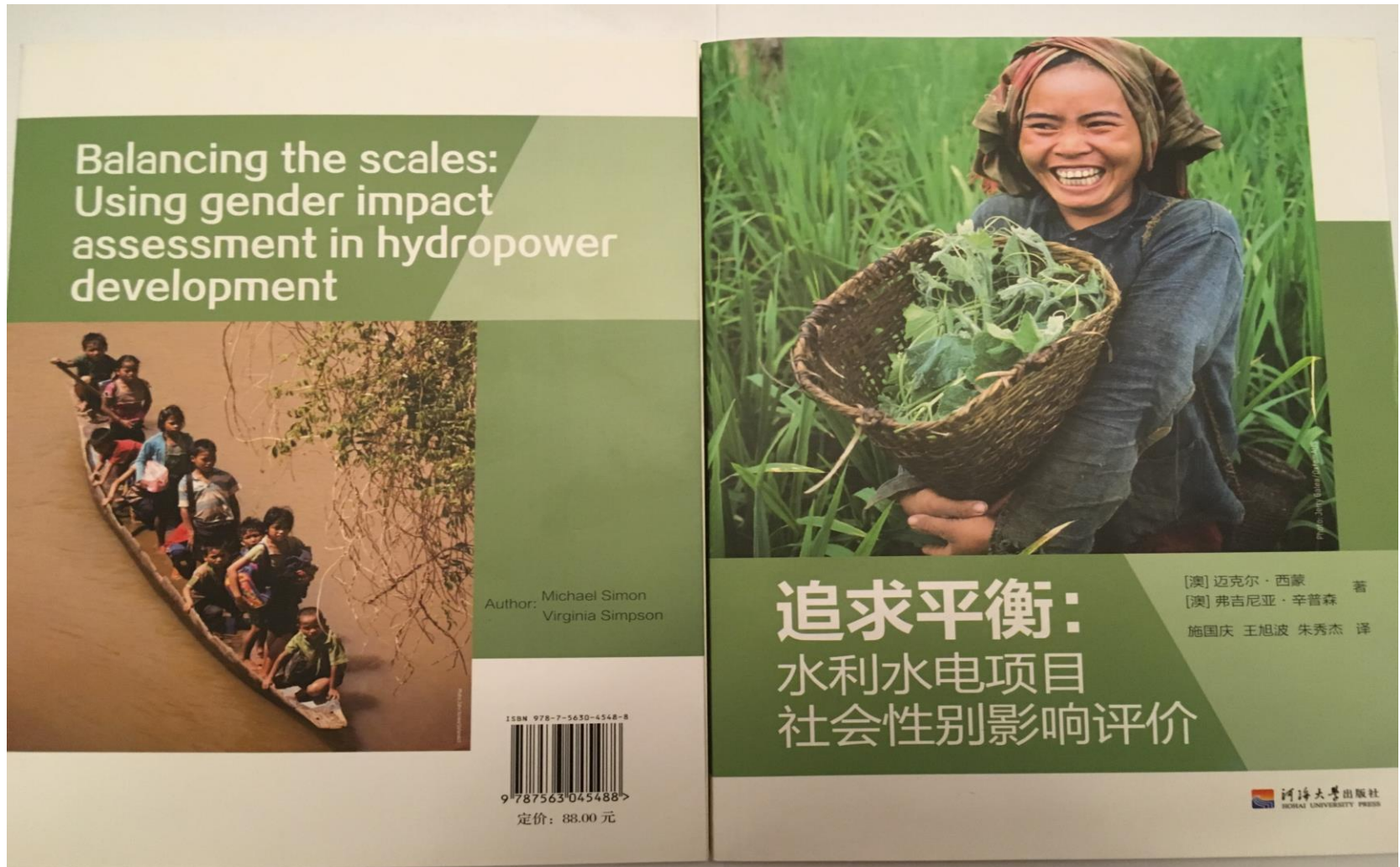






宜昌三峡传媒网
www.ch3a.com.cn

How to Make HP more sustainable? learning from international experiences



International and national cooperation and exchange



Making HP more sustainable

-Based on international experiences learning
and scientific research



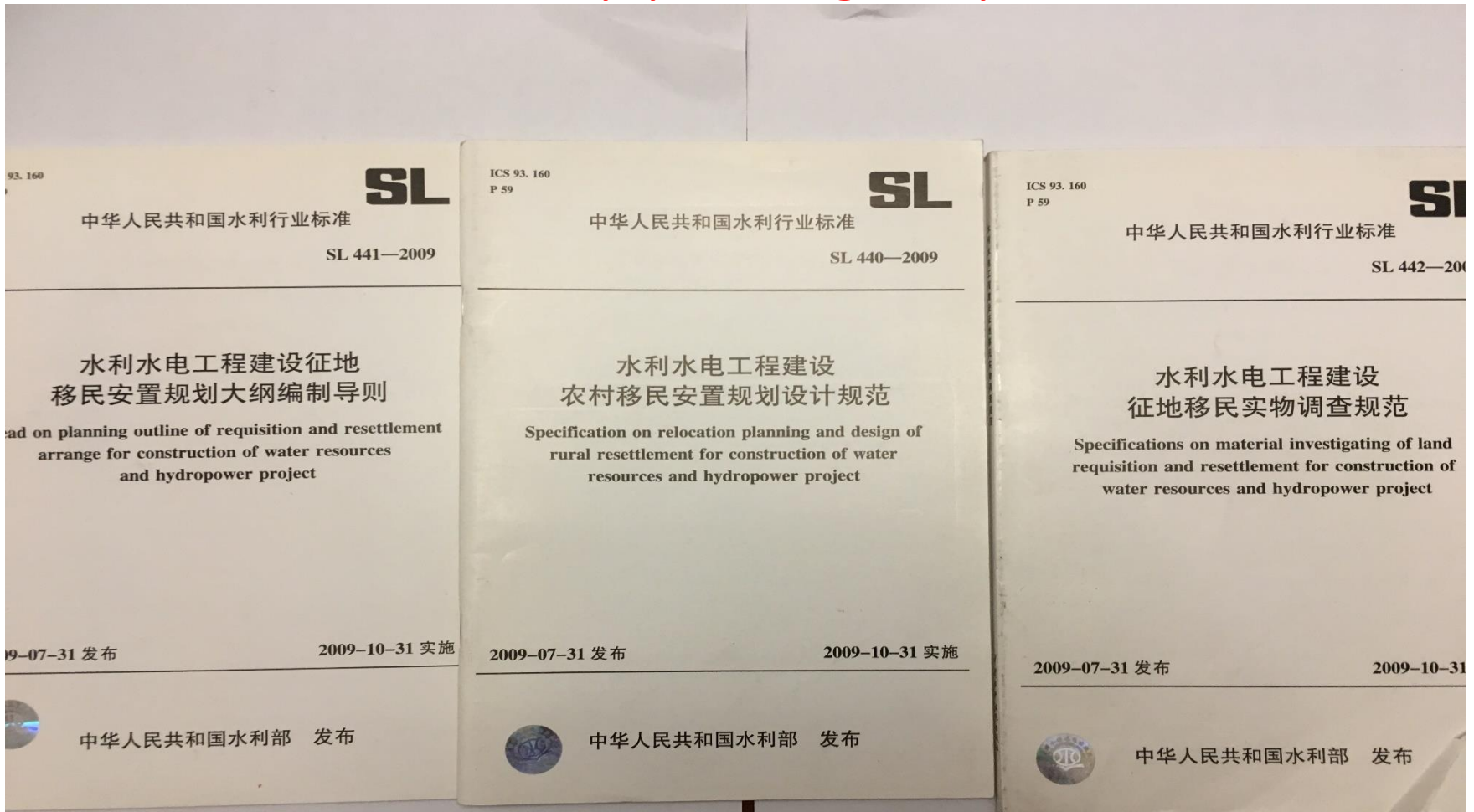
Making HP more sustainable

-Based on science theory and application research



Making HP more sustainable

-impacting in development of national policies and standards in survey, planning & implementation



Making HP more sustainable

Institution mechanism and capacity building

中国水电企业海外项目环境社会管理研讨班(第二期)留念

2017.6.6 河海大学



Training workshops on ESM in overseas Projects Chinese Hydropower Company in 2016 & 2017

-support by GIZ-MRC NHSD



NRCR-ASCI Certificate courses in MLARR in April 2017



NRCR-ASCI Certificate courses in MLARR in April 2017



Lao PDR national capacity building in Resettlement and Social Safeguard Financial support by World Bank and implementation (2016-2019)



Lao PDR national capacity building in Resettlement and Social Safeguard Financial support by World Bank and implementation (2016-2019)



**ການຝຶກອົບຮົມກ່ຽວກັບການປະເມີນຜົນກະທົບຕໍ່ສັງຄົມທີ່ເກີດຈາກໂຄງການພັດທະນາ
 ໃຫ້ແກ່ພະນັກງານ-ລັດຖະກອນຂະແໜງຊັບພະຍາກອນທຳມະຊາດ-ສິ່ງແວດລ້ອມ
 ແລະ ຂະແໜງການກ່ຽວຂ້ອງຂອງແຂວງສະຫວັນນະເຂດ**

**Training on Social Impact Assessment (SIA) Caused by Development Projects
 for Officers of Natural Resources and Environment Sector
 and Related Sectors of Savannakhet Province**

ວັນທີ 2-6 ພຶດສະພາ 2017 ທີ່ເມືອງວິລະບູລີ ແຂວງສະຫວັນນະເຂດ
 2-6 May, 2017 at Vilabuly District, Savannakhet Province

ຈັດໂດຍ: ໂຄງການສ້າງຄວາມສາມາດດ້ານການສຶກສາການປ້ອງກັນສັງຄົມ (PICE-LEnS2-006), ຄະນະວິທະຍາສາດສັງຄົມ, ມະຫາວິທະຍາໄລແຫ່ງຊາດ
 ສະໜັບສະໜູນໂດຍ: ທະນາຄານໂລກ ໂດຍຜ່ານກອງທຶນປົກປັກຮັກສາສິ່ງແວດລ້ອມ

Organized by: Capacity Building Project on Social Safeguard Education (PICE-LEnS2-006), Faculty of Social Sciences, National University of Laos
 Supported by: World Bank through Environment Protection Fund



**ກອງປະຊຸມຜູ້ມີສ່ວນຮ່ວມປະຈຳປີ 2016 ຂອງໂຄງການສ້າງຄວາມສາມາດ
 ດ້ານການສຶກສາສະໂຍບາຍປົກປ້ອງຜົນກະທົບຕໍ່ສັງຄົມ**

**2016 Annual Stakeholders Meeting of Capacity Building Project
 on Social Safeguard Education**

ວັນທີ 14 ກຸມພາ 2017 ທີ່ສະຖາບັນການພັດທະນາຊັບພະຍາກອນມະນຸດລາວ-ຍີ່ປຸ່ນ
 February 14, 2017 at Lao-Japan Human Resource Development Institute

ຈັດໂດຍ: ໂຄງການສ້າງຄວາມສາມາດດ້ານການສຶກສາສະໂຍບາຍປົກປ້ອງຜົນກະທົບຕໍ່ສັງຄົມ (PICE-LEnS2-006), ຄະນະວິທະຍາສາດສັງຄົມ, ມະຫາວິທະຍາໄລແຫ່ງຊາດ
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**ການຝຶກອົບຮົມຄູ່ຝຶກ ແລະ ນຳສະເໜີຄວາມຄືບໜ້າການກະກຽມຫຼັກສູດຝຶກ
 ອົບຮົມໄລຍະສັ້ນດ້ານນະໂຍບາຍປົກປ້ອງຜົນກະທົບຕໍ່ສັງຄົມ, ການປະເມີນຜົນ
 ກະທົບຕໍ່ສັງຄົມ ແລະ ການຄຸ້ມຄອງການຈັດສັນຍົກຍ້າຍ**

**(Training of Trainers and Presenting Short Courses on Social Safeguard,
 Social Impact Assessment and Resettlement Management)**

ຄັ້ງວັນທີ 27-31 ທັນວາ 2016 ທີ່ ເຮືອນພັກແຄມງຸ້ມ (ທ່າລາດ) ເມືອງແກ້ວອຸດົມ ແຂວງວຽງຈັນ

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 ທີ່ເກີດຈາກໂຄງການພັດທະນາ**

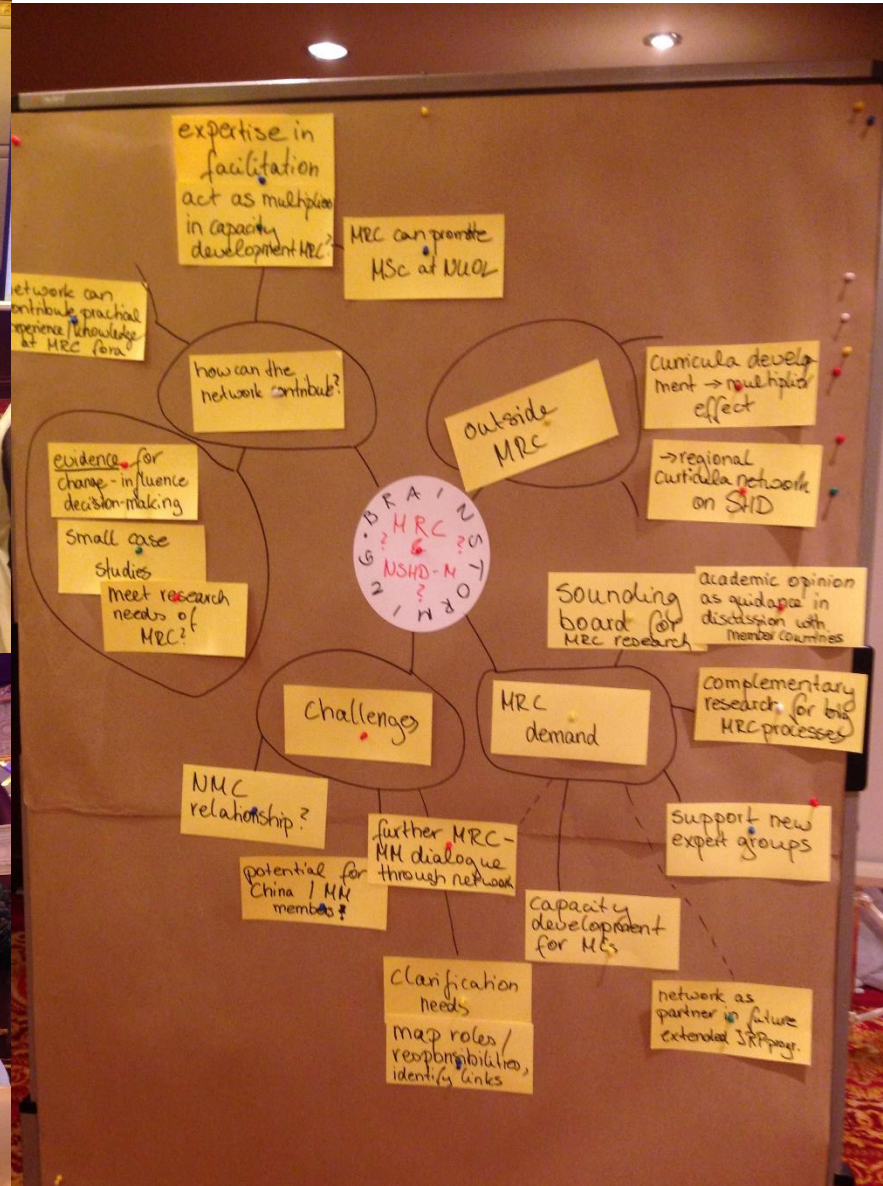
**Training on Social Safeguard Policies Caused by
 Development Projects**

ວັນທີ 19-25 ກຸມພາ 2017 ທີ່ເຮືອນພັກຄູ່ມຊັບ (ທ່າລາດ) ເມືອງແກ້ວອຸດົມ ແຂວງວຽງຈັນ
 19-25 February, 2017 at Khounxab Guesthouse (Thalath), Keooudom District, Vientiane Province

ຈັດໂດຍ: ໂຄງການສ້າງຄວາມສາມາດດ້ານການສຶກສາສະໂຍບາຍປົກປ້ອງຜົນກະທົບຕໍ່ສັງຄົມ (PICE-LEnS2-006), ຄະນະວິທະຍາສາດສັງຄົມ, ມະຫາວິທະຍາໄລແຫ່ງຊາດ
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GIZ-MRC NSHD (Network of Sustainable Hydropower Development) in 2012-2017



GIZ-MRC NSHD (Network of Sustainable Hydropower Development) in 2012-2017: 6 training manuals



Mekong Stakeholder Forum- NHSD members' engagement



Making HP more sustainable - challenges

- Social sustainability: theory, standards and indicators
- Social policies, legal framework and procedures
- Social baselines, data, survey, information etc.
- Social analysis, assessment and management planning
- SMP implementation, Monitoring and Evaluation
- Governance and mechanism in SS
- Institution and responsibility in SS
- Human resources and capacity in SS
- Financial resources and budget constrains in SS
- Research, education and sustainable capacity building

Pilot studies and state of the art in hydropower research in China

- International experience learning
- Scientific and technical research support by national foundation, ministries, industry etc.
- National and local policies & standards development
- Management procedures in planning, implementation, monitoring and compliance assessment
- Innovation and implementation in the projects
- High education such as Hohai University-Largest university in water and hydropower sector in World
- Human resources development and capacity building
- Association, publications and sharing

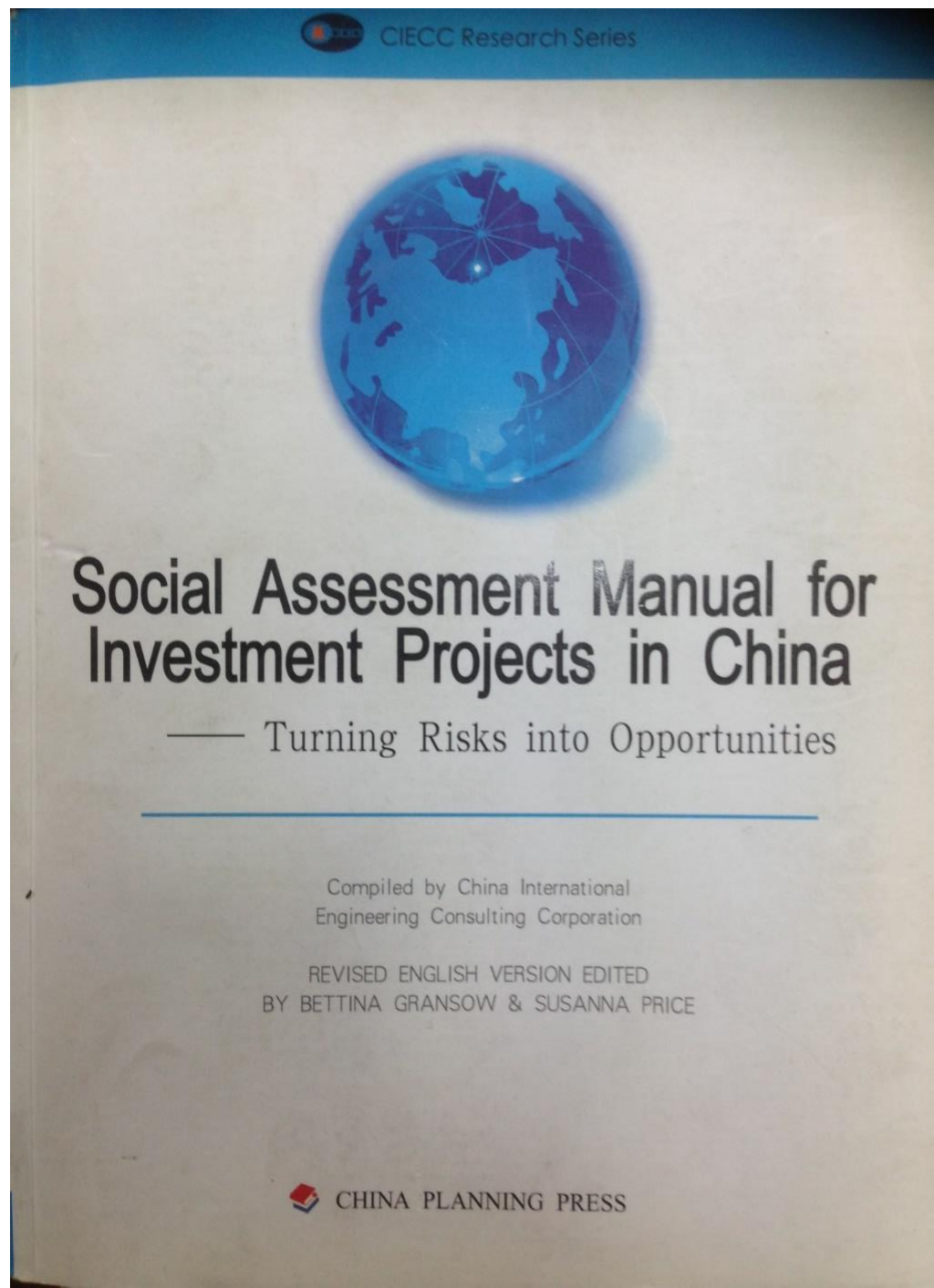
International Experiences learning IDMC Meeting in Geneva in Dec. 2016



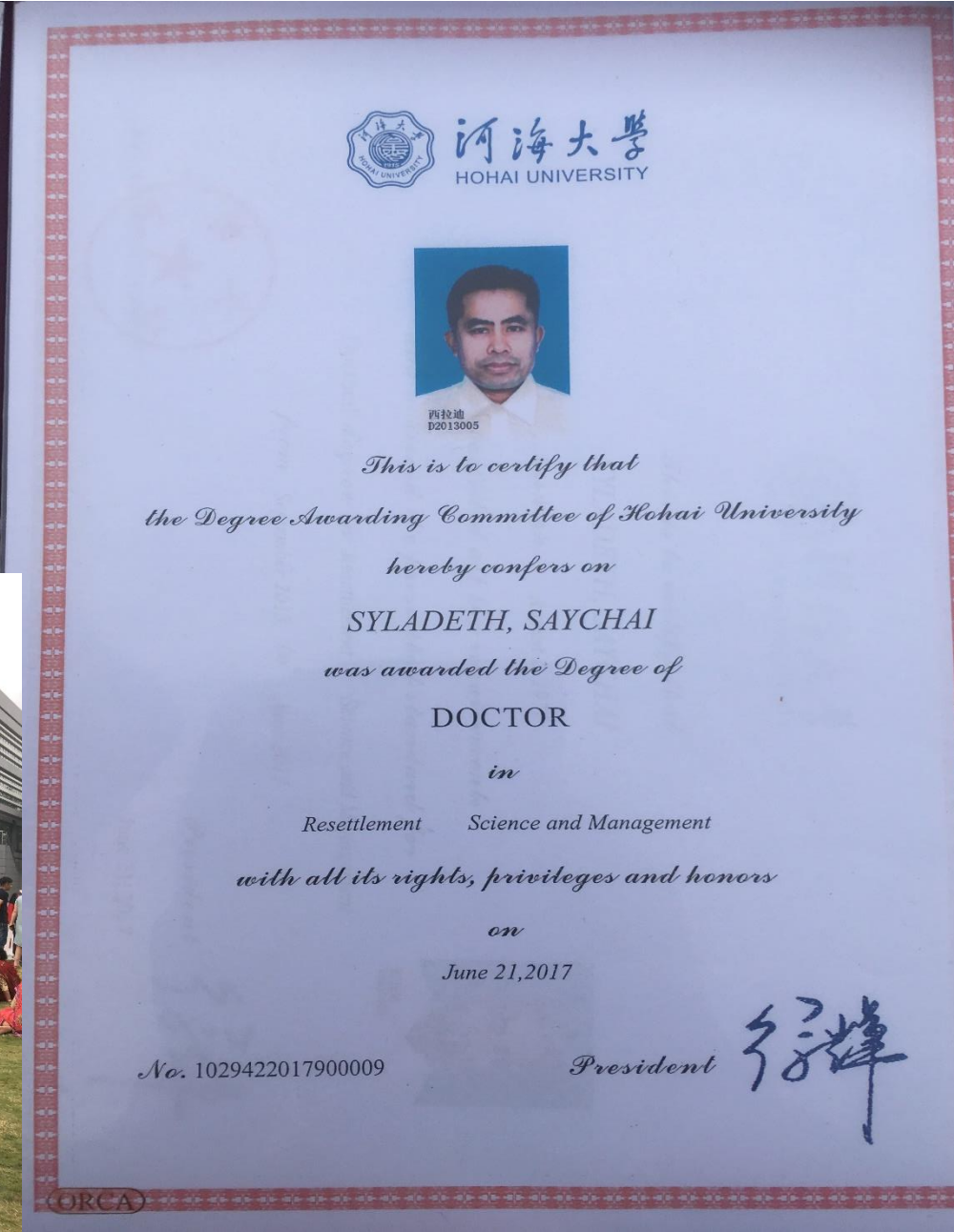
Learning from Practices



Development of Tools and Textbooks



International high education program





Recommendations

- Mission and visions in SHD
- Policies, laws, regulations and standards
- International experience, lessons learnt and localized
- Institution, governance and mechanism
- Theory and applied research
- Education, courses and curriculum development
- Case studies and good modules development
- Good practice review and application extension
- Capacity building and staff training
- Publication, journals and textbooks
- International and domestic networking
- Financial support



Thanks!

***Welcome to
Hohai University
in Nanjing China!***

THE END!