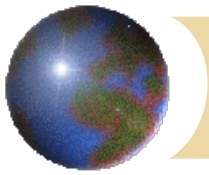


*Beyond the Economic Impact:  
Displacement & Mental Distress*

In the Case of the Three Gorges Project

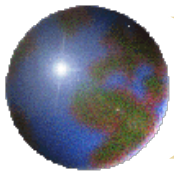
Juan Xi, Ph.D.

Associate Professor of Sociology at the University of Akron



# *Three Gorges Project Induced Resettlement*

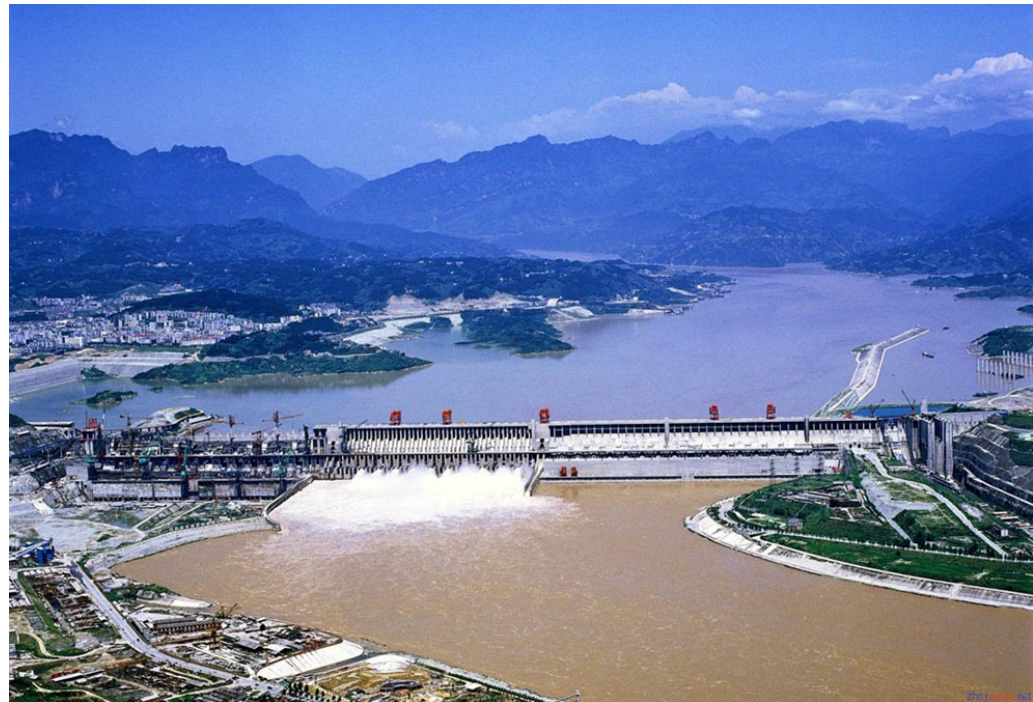
- ⊕ Started in 1992, completed in 2009
- ⊕ Water level raised from 90m to 175m
- ⊕ Submerged about 25.9 thousand hectares of farmland
- ⊕ Population relocated: 1.3 million
  - ⊞ 13 cities/towns
  - ⊞ 365 townships
  - ⊞ 1,711 villages

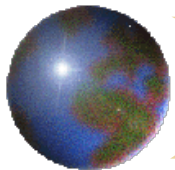


### Three Gorges (San Xia) Dam Construction Site



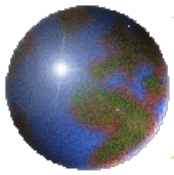
© ChinaOnline Inc.  
Map created by S. Mita





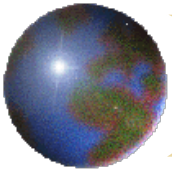
# *Zigui*





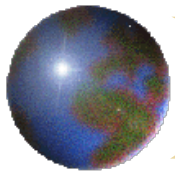
# *Yunyang*

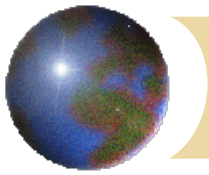




175m





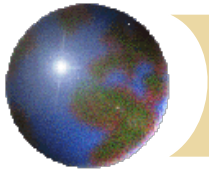


# *Scudder's Four-Stage Theory*

Describe stages for an ideal re-settlement process

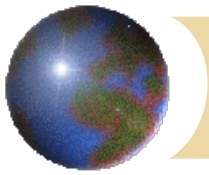
- ✚ Stage 1: Planning and Recruitment
- ✚ Stage 2: Adjustment and Coping
- ✚ Stage 3: Community Formation and Economic Development
- ✚ Stage 4: Handing over and Incorporation





# *Assessing Social Impact*

- ✦ Short term impact—stage 2
  - ▣ We conducted pre-relocation and post-relocation assessment on 975 resettlers and 555 non-movers with respect to their social and economic wellbeing and their physical and mental health

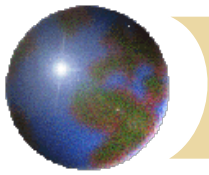


# *Short-Term Impact of TGP-induced Relocation*

## ✦ **Economic Impact**

Comparing re-settlers and non-migrants

- ✦ They both enjoyed some increase in **total household income**, the increase for non-movers was much larger.
- ✦ The increase in **household debts** among migrant household exceeded non-movers.
- ✦ Re-settlers reported some better **housing conditions**.
- ✦ Re-settlers had experienced a significant decline in **access to essentials** such as seeing doctors, going to school, visiting relatives, shopping, and recreation.

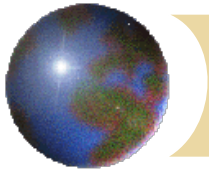


# *Short-Term Impact of TGP-induced Relocation*

## ✦ **Social Impact**

Comparing re-settlers and non-migrants

- ✦ Re-settlers suffered a loss in **routine support** and a drop in **rapport with neighbors**, while non-movers did not.

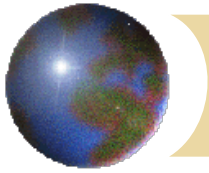


# *Short-Term Impact of TGP-induced Relocation*

## ✚ **Physical Health Impact**

Comparing re-settlers and non-migrants

- ✚ Re-settlers showed a decline in subjective health, while non-movers did not.

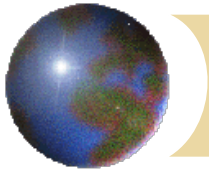


# *Short-Term Impact of TGP-induced Relocation*

## ✦ **Mental Health Impact**

Comparing re-settlers and non-migrants

- ✦ There was overwhelming evidence suggesting that the level of **mental distress** has increased significantly among the displaced.

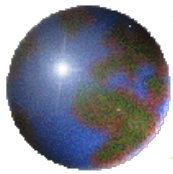


# *Short-Term Impact of TGP-induced Relocation*

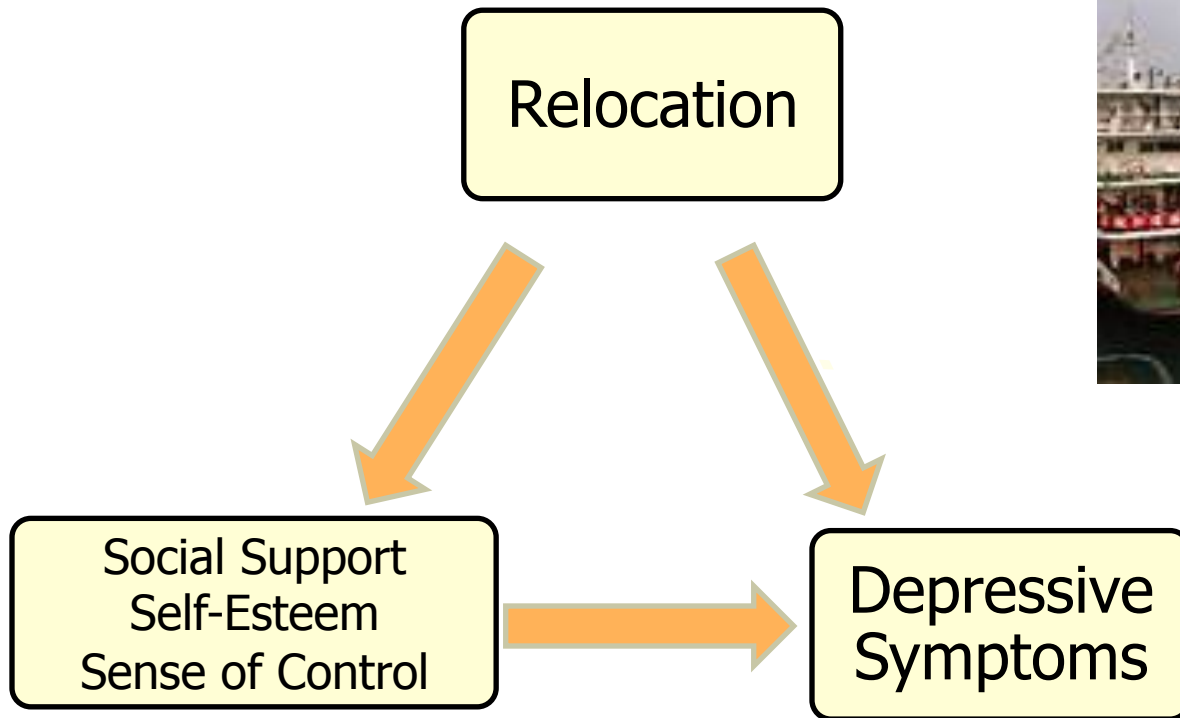
## ✚ **Mental Health Impact**

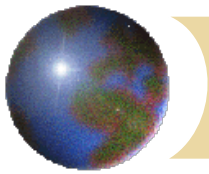
In mental health literature, a CES-D score of 16 or higher is considered as of clinical significance

- ✚ Both re-settlers and non-movers reported high level of depressive symptoms, before and after the relocation
- ✚ Mental health counseling services are needed



# *Relocation as a Severe Stressor*

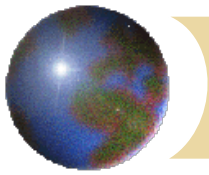




# *Relocation and Psychosocial Resources*

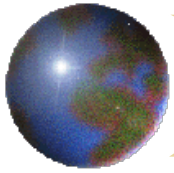
- ❑ Psychosocial resources (social support, self-esteem, and sense of control) safeguard one's mental well being.
- ❑ Sense of control (self-efficacy) has been found to influence one's ability to manage life challenges.
- ❑ Self-esteem and self-efficacy are two central aspects of "self."



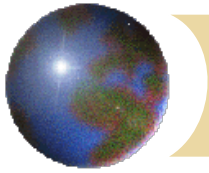


## *Lessons can be learned*

- ✦ Shortly after relocation, although the displaced have enjoyed a relative gain in housing quality, most of the changes were in the **negative direction** compared to non-movers.
- ✦ **Mental health** impact is especially striking.
- ✦ A narrow focus on mitigating only the economic dimensions of involuntary resettlement misses this critical dimension.
- ✦ This mental health concern should be applicable to other types of involuntary resettlement

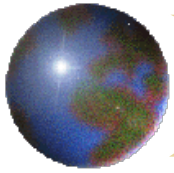


- ⊕ A relatively better outcome compared to resettlement efforts in many other countries.
- ⊕ Decline in well being shortly after relocation is expected by the four stage model.



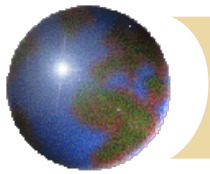
## *Questions to be Answered*

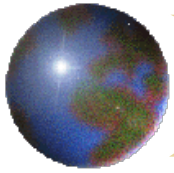
- ✦ Do the observed negative impacts represent a short term struggle or long term suffering?
- ✦ What are the long-term impacts of an involuntary relocation on psychological well being?
  - ✦ Sense of control
  - ✦ Self-esteem
  - ✦ Self-reliance
  - ✦ Coping capability to manage life's challenges

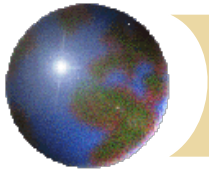


## *Long-Term Impact*

- ✦ It has been 10 years since many of our respondents moved to their new home
- ✦ Need funding to collect the third wave of data.







**Thank you!**

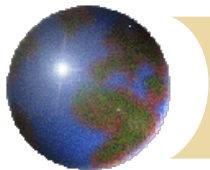


Table 3. Adjusted DID Scores Measuring the TGP's Mental and Physical Impact on the Displaced (n=1056)

		Migrants vs. Non-Migrants					
		Pre-Relocation	Post-Relocation	Difference	Unadjusted DID	Adjusted DID*	P
CES-D (20 items)	Migrant	21.95	26.25	4.31	3.28	3.39	0.001
	Non-migrant	20.89	21.91	1.02			
Subjective Assessment of Health (1~5)	Migrant	3.48	3.19	-0.29	-0.24	-0.22	0.01
	Non-migrant	3.38	3.33	-0.06			
Saw Doctors Last Week (%)	Migrant	22.67	34.69	12.02	5.69	5.59	NS
	Non-migrant	22.86	29.19	6.33			
Took Medicine Last Week (%)	Migrant	36.43	49.88	13.45	3.62	2.15	NS
	Non-migrant	38.57	48.41	9.83			
Injury or Serious Illness Last Year (%)	Migrant	8.81	8.33	-0.48	4.38	4.29	NS
	Non-migrant	10.29	5.43	-4.86			

\* Controlling for variables that significantly affected attrition, plus age, gender, education, marital status, and CCP membership.

NS: not significant