



**LUND**  
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**Master Thesis**

**The Role of Infrastructure Projects in  
Socio-economic Development:**

**Case study of Geheyan dam**

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## **Abstract**

Previous research on hydropower projects impact on people's socio-economic development has mainly focused on relocated people, immediately after they were relocated, arguing that relocation result in underdevelopment of people's livelihoods. Henceforth, this research contribute to the literature through including a long-term perspective to highlight immediate and long-term impacts on relocated and non-relocated people in order to provide a more comprehensive understanding of hydropower projects' impact. A combination of Horizontal inequality and Social wellbeing theory was adopted as theoretical framework when analyzing sentiments towards government and assessing peoples perception on their and society's socio-economic development. A field study was conducted in Changyang Tujia Autonomous County in China, investigating the socio-economic impact of the first hydropower project constructed in this county, named Geheyan dam. The result of this study is that Geheyan created horizontal inequality between relocated and non-relocated people immediately after relocation was realized, prominently because of rapid increase of commodity prices in combination with time-consuming process in restoring production systems. However, from a long-term perspective, it brought people out of poverty and improved both groups socio-economic development through enabling urbanization and tourism. The result is; participants' positive perception of Geheyan, the local and central government indicate that socio-economic development improved – including both relocated and non-relocated people.

Key words: Hydropower projects, Changyang Tujia Autonomous County, Geheyan dam, socio-economic development, Horizontal inequality, Social wellbeing theory, industrialization, urbanization, tourism.

*Word count: 22,089*

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## Acknowledgments

My journey in writing this paper has been filled with unexpected events and developments, and has resulted in one of the greatest experiences I have had. This endeavor would not have been successful without invaluable help, guidance and support I received from the professors and program coordinators at Lund and Fudan University, my dear friend and translator Xiaoyu, my participants and friends in Lungzhouping that has helped me with my field study, and my dear family and friends.

First and foremost, I would like to express my sincere gratitude to my thesis advisors professor Zhang Li from Fudan and Isabelle Cote from Lund for their insightful comments and suggestions, for all the time and patience they had while advising me on my research. Secondly, I would like to express my gratitude to my professors at Fudan University that provided me with substantive background knowledge of China, which enabled and facilitated me to conduct this research; Prof. Peng for increasing my knowledge about Chinese demography and Prof. Jianfeng Zhu for increasing my understanding of Chinese society. I also present my gratitude to professors at Lund University for increasing my understanding surrounding development issues. Another valuable person contributing to this research, that I would like to present my gratitude for, is my high school teacher Stig Lennart Godin, for his encouragement and effort in developing my analytical skill

I express my sincere gratitude to my dear friend Xiaoyu for enabling this research through agreeing to become my translator, also to her family who opened their home for me. I would like to thank following people; Xiaoyu's grandmother for cooking delicious lunch meals everyday during our field study Victor and Summer and their families for accompanying me in several trips around Changyang providing valuable information and their sincere friendship. I would also like to present my sincere gratitude to my participants for providing me with valuable material, that this research is based upon. I would particularly like to thank the Directors of Changyang Tujia Autonomous County's Migration and Tourism bureau for accepting an interview and

for providing me with material and information that would have been inaccessible otherwise.

I would like to present my sincere gratitude to Katarina Follin, coordinator at Lund University, for her encouragement to enroll in the double-degree at Fudan and for all her encouragement. Without her support and guidance I would have missed this once in a lifetime experience. Likewise I would like to thank Lishuang and Jeanette Nordström, coordinators at Fudan respectively Lund University, for facilitating and managing all administrative work during my studies. I also present my gratitude to Kjell Nilsson for enabling and managing this exchange when visiting us in Shanghai.

I would also like to present my gratitude to friends that helped me with this document and done an excellent work; Di for translating valuable policy documents in a short notice, Alexander Burns for submitting this work, and Davlin Edwards for his support in proofreading and improving central parts in this document.

Lastly, I would like to thank my father Yusuf, my mother Selime, my sisters Gunay and Asli, and my brother Sahin for all their support during my studies, all the love they have given and for always making me smile – even in a stressful thesis period. This research would have not become realized without their help.

*I dedicate this research to my precious family, for always supporting  
and pushing me to accomplish great things.*

- *Zeynep Erdal*

*Shanghai 2012.05.25*

## Abbreviations

|           |                                                                 |
|-----------|-----------------------------------------------------------------|
| CGGC      | China Gezhouba Group Corporation                                |
| Changyang | Changyang Tujia Autonomous County                               |
| CMB       | Changyang Migration Bureau                                      |
| CSG       | China Southern power Grid                                       |
| CSIRO     | Commonwealth Scientific and Industrial Research<br>Organization |
| CTB       | Changyang Tourism Bureau                                        |
| EPR       | Environmental Protection Regulation                             |
| GDP       | Gross National Product                                          |
| HDI       | Human Development Index                                         |
| HI        | Horizontal inequality                                           |
| Hukou     | Household registration system (in China)                        |
| HQHC      | Hubei Qingjiang Hydraulic Development Corporation               |
| ICSHP     | International Center on Small Hydropower                        |
| PC        | Peoples Congress                                                |
| ppp       | Product Purchasing Parity                                       |
| PRC       | Peoples Republic of China                                       |
| rmb       | renminbi (/yuan, Chinese currency)                              |
| SGCC      | State Grid Corporation of China                                 |
| SWT       | Social Wellbeing Theory                                         |
| TGP       | Three Gorges Dam                                                |
| TR        | Tourism Regulation                                              |
| UN        | United Nations                                                  |

## Map

### Changyang Tujia Autonomous County and Qingjiang river<sup>1</sup>



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<sup>1</sup> The concentrated red area is depicting Changyang's capital Lungzhouping's location

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# 1. Introduction

Globally many states consider dam projects as efficient and beneficial long-term developmental strategy since they are visible manifestation of government investments, offering immediate returns in terms of energy production (Dieu 1996:103), flood control, stable navigation and much more. Hydropower constructions has increased globally: whilst there were 5,000 dams in 1950, there were approximately 36,200 in early 1990's – in which China accounts for half of newly built dams during this time period (Dieu 1996:102) making it a global leader within hydropower constructions<sup>2</sup>.

Why is the Chinese government such a strong advocate of hydropower development? According to Dieu (1996) Chinese politicians perceive dams as a pragmatic solution for China's underdevelopment (Dieu 1996:102), which indicates existence of a perception that dam projects *create* development. So in which way does hydropower stations contribute to national development? Realization of Deng Xiaoping's economic reforms in 1978, underlined increasing demand for electric power (energy demand in general) to establish a stable growth of industrial base for/ and economic development (Dreyer 2008:251). In reference to this, Chinese State Council approved constructions of several hydropower stations, including world's largest hydropower project; Three Gorges Dam Project (TGP) which required relocation of 1.3 million (Sutton 2004:111). Chinese policies are mainly shaped around economic growth, with urbanization and industrialization as central components in its development objective.

The Royal Danish Consulate General and China Europe International Business School in Shanghai held a conference covering different water issues in China from a business perspective. The conference was named "Blue Gold", referring to the increasing perception of water as being precious (Blue gold conference notes, 2012.05.09). Scholars and politicians refer to oil as "Black gold", and invention of the

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<sup>2</sup> See appendix 1 for a statistical overview of existing hydropower projects

“Blue gold” terminology indicates the increasing importance and value of water as *energy for development*.

However, hydropower projects have received tremendous amount of critique due to their negative implications on relocated peoples socio-economic development. Jing (1997), Sutton (2004), Heming et. al (2001) and several other authors argue that majority of relocated people in TGP experienced economic, social and psychological losses. Heming et. al. (2001) states that approximately 80-90 million people were displaced due to developmental projects during 1990’s. Two-thirds of the 10 million relocated as a consequence of hydropower constructions during this time period, are currently below official poverty line (Heming et. al. 2001:196-7).

### **1.1. Problem statement and previous research**

According to Tan and Yao (2006) resettlement objectives were formulated around a slogan “moving out, being stable, and becoming wealthy gradually” (Tan & Yao 2006:352). The key word is *gradually*, indicating that socio-economic development is a slow process and does not occur overnight. Nevertheless, scholars have evaluated effects of hydropower projects within the first 10 years after relocation, focusing on relocated people’s livelihood development. Previous research is insightful in understanding people’s immediate perception and response to dam constructions, but restoring production systems (especially within farming require several years) and adapting is time consuming which indicates that restoration of livelihood could solely be captured through a longer-time approach. Another limitation of earlier work is that they have either been conducted shortly after dam’s completion or /and by simply investigating relocated people – ignoring non-relocated people’s development.

In the face of these limitations, this paper provides a long-term investigation of a relatively old dam in an attempt to provide a more complete understanding of the impact of hydraulic projects on local socio-economic development. Changyang Tujia Autonomous County (hereon referred to as Changyang) gained autonomy in 1984, and Lungzhouping became its capital. In 1986 the central government implemented its first major infrastructure project; Geheyan dam. There is currently no research regarding Geheyan’s impact on Changyang’s socio-economic development.

Henceforth, this research aims to investigate short and long-term impacts of Geheyuan on relocated and non-relocated people's development – creating a great and unique contribution to literature.<sup>3</sup>

## 1.2. Research questions

The research question is defined as following: *how has Geheyuan dam affected Changyang's socio-economic development?*

Following sub-questions have been formulated to answer the main research question.

- 1) *How was Geheyuan implemented and what were its immediate affects on Lungzhouping and its surrounding area?*
- 2) *What were the long-term affects of Geheyuan on Changyang's socio-economic development?*
- 3) *Did Geheyuan decrease or increase socio-economic development in Changyang?*

By answering these questions, local peoples perception of Geheyuan's impact on local socio-economic development will be evaluated. Through assessing immediate and long-term impacts, this research hope to provide a comprehensive understanding of Changyang's development path. Through combining Horizontal inequality and Social wellbeing theory, this research aim to investigate whether relocated and non-relocated people experienced differentiated /unequal socio-economic development path in post-Geheyuan. Additionally, by evaluating the central and local governments efficiency in implementing policies that enhances socio-economic development, these parties role within Changyang's development will be highlighted.

## 1.3. Defining poverty and socio-economic development

Socio-economic development within this research is perceived as being contrary to poverty. Wang et. al. (2011) state that there is a shift from “the standard of objective

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<sup>3</sup> Note: my lack of Chinese skills might have prevented me from accessing secondary data that covers this specific topic.

well-being and absolute poverty to that of subjective well-being and relative deprivation” (Wang et. al. 2011:716). Poverty can be analyzed as absolute or relative; whilst absolute poverty is measured against a specific benchmark, relative poverty is measured against social standards (White 2008:25) and is thus rather contextual. This research agrees with contextually in determining development.

Traditional methods for measuring human development are based on GDP (Gross National Product) per capita, Human Development Index (HDI) and Human Poverty Index (HPI). GDP per capita or HDI only highlight *average* economic income rate per person in a state, and thus ignore distribution of capital. HPI is more multidimensional and takes several criteria into consideration, nonetheless it is more health-oriented rather than socio-economic. Henceforth, all these measurements provide statistical quantitative data that exclude contextual background and explanation. White (2008) states that there is a shift to qualitative and multi-dimensional approaches within development discourse and includes certain aspects of life such as

material consumption, health, education, social life, environmental quality, spiritual and political freedom (White 2008:25).

It could be argued that White’s definition is more multidimensional and includes aspects of life that are considered as important for wellbeing, that provides a comprehensive understanding of social life – rather than socio-economic development per se. White argue that a comprehensive understanding of socio-economic development should include a definition that takes contextual consumption expenditure and price differences into consideration, (White 2008:27) This research believe that Jaffae, (1998) a prominent scholar within socio-economic theory, provides such a definition of socio-economic development;

*Ability to produce an adequate and growing supply of goods and services productively and efficiently, to accumulate capital, and to distribute the fruits of production in a relatively equitable manner (Jaffee 1998:3).*

Thus, this research will evaluate socio-economic development through looking at opportunities for economical productivity, socio-economical capability to enhance a sustainable and healthy life and equal economic distribution.

## **1.4. Roadmap to this research**

This chapter provided a general introduction to this research, outlining main research questions and definition of socio-economic development. The next chapter will discuss the ontological basis of this research, presenting how Social well-being theory and Horizontal inequality will be used as theoretical framework. Chapter three will outline the methodological approach that was used in gathering information. Chapter four will explain the immediate impacts of Geheyan on Changyang. Chapter six will discuss Geheyan's long-term impacts, and explain how the development of tourism generated local socio-economic development. The final chapter, chapter seven, will summarize arguments used in this research and present concluding remarks.

## **2. Theoretical framework**

This chapter aims to explain this research's ontological premises - i.e. its basic assumptions regarding the construction of reality (Gustavsson & Tallberg 2007:24). According to Donnelly (2005) and other authors, theories function as lenses which affect one's perception and interpretation of one's surroundings. These lenses filter information perceived as important and necessary for acquiring deeper understanding of the world (Donnelly 2005:30, Gustavsson & Tallberg 2007:24). This demonstrates that theory choice will affect the outcome of one's research, since information is analyzed vis-à-vis theory. A combination of Subjective Wellbeing Theory (SWT) and Horizontal Inequality (HI) has been selected as theoretical framework, due to their complementary ability to connect socio-economic development and intergroup dynamics with evaluation. But first, let's review some of the specific socio-economic and political challenges and benefits arising from dam constructions in China.

### **2.1. Background: Challenges in the Southern belt**

Danish Council General opening phrase at the conference was: "Water is one of China's main challenges, some regions have too much, some too little and other polluted water" (Blue Gold, conference notes, 2012.05.09). China inhabits some of the world's largest rivers, originating from the Tibetan plateau in western China to the east coast (see figure 1). Most of these rivers are concentrated in the southern belt of China. Issues regarding water vary depending upon region, having differentiated implications on productivity; whilst north China suffers from drought, southern regions experienced increased amount of floods (Dreyer 2008:251, Gleick 2008-9:84), which indicates that issues surrounding water are contextual.

Since Changyang, the case study for this research, is located in the southern belt, next question is; how does floods in the southern belt affect economic productivity and people's livelihoods? During the last decades, China's southern regions have



experienced increased floods with devastating effects on the livelihood and property of people living along the riverbed, through damaging their economic productivity and being an imminent threat to people's physical safety. According to Gleick (2008-9) 2007 Yangtze flooding in late 1990's, resulted in 1,200 deaths, destroying crops, farming land and houses - creating economic loss worth 100 million rmb (Gleick 2008-9:87). Thus, through constructing dams three clear benefits emerge; flood control, navigation and electricity (Sutton 2004:111). Hydropower projects have a significant, pragmatic role in Southern belt's development through enabling flood control, which stabilize and secure people's economic production and livelihood.

According to Liu Heng, a prominent Chinese scholar, director general of the International Center on Small Hydropower (ICSHP) and vice president at Nanjing Hydraulic Research Institute, there are three main reasons why the (Chinese) central governmental invests in small hydropower stations: to generate electricity for local industries and households, to control floods and to enhance people's socio-economic development through securing their production environment. Prof. Heng henceforth underlined that the central government's main reason for advocating construction of hydropower stations is to enhance people's socio-economic development and alleviate poverty. (Blue gold conference notes, 2012.05.09).

However, as mentioned before benefits of hydropower projects are perceived to be unequal from a micro-perspective; Heming et. al. highlights that upper reaches of Yangtze have suffered huge losses, whilst lower and middle reaches of the river enjoy the benefits of TGP such as cheaper electricity, safe production environment due to flood control (Heming et. al. 2001:205). Hydropower stations increase water levels in upstream areas, destroying farming land, houses and production systems. For instance, TGP increased Yangtze's water level to 175 metres, flooding eight county seats, 106 towns, cultural and historical artifacts (Heming et. al. 2001:201), forcing 1.2 million people to relocate (Jing 1997:70). So in which way does people in upstream areas suffer? Usual problems facing relocated people in development projects include joblessness, homelessness, food insecurity, community displacement, social and psychological losses etc. (Xi et. al. 2007:325). These negative implications immediately after relocation has led scholars to following conclusion; hydropower projects are forcing people into poverty and underdevelopment. Scholars have thus

compared relocated and non-relocated peoples socio-economic development, arguing that the former become economically marginalized in comparison to the later.

## **2.2. Horizontal Inequality and social instability**

### **2.2.1. Inequality between groups**

HI investigates groups relative performance (in relation to others) in social, economic and political dimensions of individual welfare (Stewart 2002:1, (Østby 2004:5). Østby (2004) argues that;

... simple inequality between rich and poor is not enough to cause violent conflict. What is highly explosive is ... 'horizontal' inequality: when power and resources are unequally distributed between groups that are also differentiated in other ways – for instance by race, religion or language (Østby (2004:3).

Currently, HI literature is heavily focused on conflicts, presenting that HI is a root cause for its eruption. However, there is a strong inter-link between socio-economic development and conflicts. HI itself is a consequence of unsuccessful development pattern, marginalizing some groups and favoring others. This in turn, result in unequal socio-economic development The correlation between conflict and socio-economic development makes this theory applicable to this case study as well, since HI presents indicators for unsuccessful development such as *grievance*.

Relative deprivation can motivate individuals to act and express their grievance collectively (Østby 2006:6). Thus, it is evident that Horizontal Inequality (HI) investigates differences between two or several distinctive groups through highlighting the collective aspect of deprivation. Stewart (2002) however acknowledges that group identities are constructed and thus group divisions could be based on other clear and consistent sub-group identities where mobility from one group to another is limited (Stewart 2002:1f.f.).

Why is Horizontal Inequality important in my case? As mentioned before, major criticism towards hydropower projects has mainly emphasized the unequal affect on relocated and non-relocated people, in which the formers living conditions become worse. Thus, benefits of hydropower projects have been dependent upon whether one

became relocated or not. Xi et. al. (2007) conducted a survey among TGP migrants 10 years after relocation was completed, and results presented were that approximately 70 percent experienced decreased income rate (Xi et. al. 2007:325), implying that HI is *created* due to relocation.

Scholars such as Homer-Dixon (2004), Urdal (2005), Østby (2004) highlight how population pressure on existing resources can damage socio-economic development. Population pressure can be caused by humans through migration, but also through non-human factors such as environmental change (Urdal 2005:420f.f.) creating an imbalance between resources and population. According to Heming et. al. relocation of migrants to new rural areas (that were already inhabited by others) increased population pressure on existing (limited) land, disorienting relocated peoples livelihood conditions - motivating relocated people and “locals” to migrate (Heming et. al. 2001:201). However, the authors fail to acknowledge one important aspect connected to hydraulic projects and displacement; hydropower projects themselves decrease amount of available land, caused by increased water level changing the physical environment of its location. Thus, resources scarcity induced by hydraulic projects are different, since they diminish available land, resulting in resource scarcity. This could easily erupt in HI since relocated would have to compete with non-relocated people for resources, whether this concerns urban occupations or farming land in rural areas.

Relocated people face difficulties in both rural and urban areas in terms of restoring their economic situation, being forced to compete with local people for resources (Heming et. al. 2001). Hydraulic projects create migration flows due to relocation (directly connected to dam project) and environmental degradation (indirect connection). Resources in this research is referring to natural resources such as farming land, water and fishery; and non-natural resources such as employment opportunities, economic wellbeing (/ppp) and education Successful development pattern is characterized with limited or non-existence of HI.

According to Urdal (2005) conflicts based on HI erupt more frequently in developing states due to governments “less ability to cope with and adapt to scarcity” (Urdal 2005:420), indicating that limited capacity in managing resources (identified through existence of unequal distribution) undermine the legitimacy of the government. Østby

et. al. (2005) present urban growth as a stabilizing factor in decreasing this tension (Østby et. al. 2005:430). This indicates that there are two important factors when evaluating governmental efficiency; resource management and urban growth. In this research “government” is foremost referring to local (Changyang) and central government. Since Changyang’s economy heavily depended on farming, and increased water level decreased available land – it is most likely that land scarcity occurred after relocation. Geheyuan was initiated by the central government, whilst local government was responsible for its management and realization (Migration Minister, Changyang). Thus, by investigating how local and central government coped with this scarcity, these units efficiency will be highlighted.

### **2.2.2. Grievance**

Brunnschweister and Bulte (2008) add that unequal socio-economic development expresses itself in two psychological conditions; greed and grievance (Brunnschweisler & Bulte 2008:1). Greed /enrichment motivates rebels (and other groups) to seize resources for increased wealth, whilst grievance encourages creation of rebel groups aspiring for better living conditions;

In the context of resource-rich societies, grievance might be exacerbated by insufficiently compensated land expropriation, environmental degradation, inadequate job opportunities, and labor migration (Brunnschweisler & Bulte 2008:3).

Greed and grievance is distinguished by motivation; whilst greed is connected to resources and increase of ones wealth, grievance is connected to under-development and unequal distribution of resources. Thus, there is an underlying assumption that there is a causal relationship between HI and grievance, caused by unequal on distribution of resources (socio-economic, political power or physical resources) between distinctive groups, resulting in asymmetrical development pattern.

Changyang is an autonomous minority county, whereas half of its population belongs to Tujia ethnic minority group (Permanent mission of PRC to UN). It would have been interesting to investigate whether and in which way Geheyuan has affected Tujia identity in general. However, when investigating whether Geheyuan caused HI, ethnic identities seem not as less relevant; relocation of people were based upon geographical location, rather than ethnic belonging. This research thus argue that

focusing on inter-group dynamics (if existent) between rural and urban, relocated and non-relocated people is more suitable for this study and would provide valuable information about development patterns between these groups.

### **2.2.3. Identifying unequal development**

Next question is how to measure unequal distribution? SWT argues that objective approaches /indicators such as economic well-being are typically selected by policymakers or experts, making them subject to subjective choice (Wang et. al. 2011:717). Henceforth indicators are selected by outsiders, excluding subjects perception. SWT argues that subjects themselves should evaluate wellbeing level; “well-being based on personal judgment, which is usually a judgment about life satisfaction and the individual’s perception of well-being” (Wang et. al. 2011: 717). There are several sub-theories within SWT; absolute, relative, adaption and expectation theory. These theories contain differentiated perspective when addressing life satisfaction and well-being:

The relative and absolute theory judges life satisfaction or the sense of well-being mainly from the perspective of income, whilst adaptation theory and the expectation theory do the same mainly from a non-economic perspective (Wang 2011:717).

Rather than focusing on wellbeing and life satisfaction per se, this research treats these aspects as indicators of successful socio-economic development, making relative and absolute theory more suitable for this research. Absolute theory believes that people’s wellbeing and life satisfaction increase vis-à-vis economical income, whilst relative theory argues that

the perception of well-being or life satisfaction relies on relative income. People tend to compare their current income and consumption with that of others or with that of themselves in the past, and their perception of well-being or life satisfaction will drop when they find their current conditions are not as good as that of others or that of themselves in the past (Wang et. al. 2011:718).

SWT’s relative theory underlines that people evaluate their current development through comparing with previous experience, arguing that evaluation of socio-economic development is carried out through comparing to others and themselves.

By looking at income, educational level, occupation etc. some factors about socio-economic development between groups become evident. However, some aspects cannot be highlighted through statistics, for instance solely looking at income would not explain whether people have enough purchase power for a good and healthy life. These concepts might seem abstract, challenging its validity, however since people's interpretations and evaluations of their own development are contextual and subjective - validity would be gained through capturing "locals point of view". Thus, rather than define what "good" life is, this study will solely evaluate whether participants evaluation of their socio-economic development is positive or negative. Previous research highlighted relocated people felt grievance towards the government and had negative feelings regarding their socio-economic development shortly after relocation. Henceforth, it will be interesting to investigate whether a long-term perspective will present different results.

### **2.3. Analytical strategies**

So which analytical strategies can be used when analyzing Geheyan's effect on local peoples' socio-economic development? SWT argue that people evaluate their socio-economic development vis-à-vis others or their previous development, and HI add that comparing with others would interrupt grievance if HI exist among clearly defined groups. Henceforth this research argues, that if people draw comparisons with themselves when evaluating their socio-economic development, HI would be low or insignificant. Consequently if inter-group comparisons were made, this would indicate grievance. Researchers have argued that HI exists between relocated and non-relocated, and also between people relocated to rural and urban areas. Thus, in accordance with HI "bad" development occur if the government cannot cope with distributing resources equally. One solution that has been presented is urban growth. Since Changyang is a minority County, and Geheyan was implemented by the central government it could be argued that positive perception of Geheyan and (the local and central) government among people will exist if;

- 1) HI is non-existent or vague (by comparing relocated and non-relocated),

- 2) Their own socio-economic development has improved (for both groups), through comparing to themselves rather than others.

These two indicators will also indirectly highlight the efficiency of the government to secure socio-economic development in post-Geheyan development. Thus, HI will solely serve as a hypothetical framework to understand peoples' perception on their development pattern in Changyang and people-government relations in regard to Geheyan.

### **3. Methodology**

This research is based on analytical induction, in which Geheyan constitutes its case study and central point of analysis. This chapter will highlight which method that was deployed.

#### **3.1. Research Design**

This research has selected case study as its method. According to Alexander L. George and Andrew Bennett (2005) case studies are characterized by their historical examination of a historical event, in which generalizations can be drawn. The comparative advantage of case study as a method, in comparison to other methods, is its ability to reveal of causal relationships (George & Bennett 2005:5), providing a deeper understanding of a specific phenomenon. Causality is revealed through process tracing; mapping the link between observed results and possible explanations (ibid:6). Process tracing is crucial in this study, since it enable in which way Geheyan dam affected Changyang's socio-economic development.

Åberg (2010) highlight another strength of deploying case study as method; "it can handle many different types of empirical material and methods; documents, artifacts, interviews and observations" (Åberg 2010:4). This study has deployed several, differentiated methods and techniques regarding gathering, organizing and analyzing data – making case study approach suitable. Data was gathered through documents, observations and interviews, which were later, organized and analyzed. Microsoft Excel and Word were used when creating the tables and figures in this research. Combining and critically analyzing findings in interviews, observations and text analysis, has been enabled in-depth analysis.

Since this research aim to explain how a phenomenon (development project, Geheyan dam) has affected this research's unit of analysis (Changyang), case study method is



perceived as most efficient approach to conduct in-depth analysis that reveal this causal relationship.

### **3.2. Method and data collection**

Methods and techniques deployed when gathering, organizing and analyzing the data collected in the field are predominantly qualitative. This research is heavily based on primary data collected in a field study in Changyang, constituting of observations, semi-structured interviews (with 54 local people, including local government officials) and County's official policy documents. Primary sources were also collected at the "Blue Gold" Conference in Shanghai (2012.05.09) where experts on hydropower projects in China attended and held presentations and discussions.

The analysis is predominantly based on primary data collected through interviews, politicians, academic scholars and official government documents, whilst secondary data used was academic literature, news articles, and reports from international organizations.

#### **3.2.1. Field site description**

The field study was conducted during the Spring festival (Chinese national holiday) for 14 days in Changyang's capital Lungzhouping and its surrounding rural areas. During this period all Chinese people that have migrated return to their hometowns, henceforth it felt natural to select this time-period to increase my chances of reaching migrants that have left Changyang (whether this was applicable). Changyang is located in Hubei Province (China), located at the branch of Yangtze river. Changyang gained autonomy in December 8 1984, and its capital is Lungzhouping. Tujia minority accounts for half of County's population rate (400,000 residents). Tujia minority is one of the major ethnic groups in China, mainly concentrated in south-central part (in Hubei province) (Shen et. al. 2011:460). There are currently three autonomous regions in Hubei altogether linked to Tujia minority, and these were granted autonomy during same time period as Changyang (permanent mission of PRC to UN)<sup>4</sup>. Geheyam dam is located on the middle stream of Qingjiang river, which is one of the major contributors to Yangtze river (see map 1). TGP is approximately 50

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<sup>4</sup> See appendix 2 for more information

km from Lungz houping. During last decade, Changyang has been transitioning from rural to urban society – a classical case of Chinese development pattern. Rural areas are mainly based on agriculture, but many rural resident migrate to urban centers within and outside the County to find temporary jobs. Henceforth, rural areas become almost empty off-season. Lungz houping is the County’s urban center, mainly based on secondary and tertiary industries. Changyang’s topography is mountainous, and Qingjiang river runs through the entire County. Several fieldstrips was conducted around the County, including Yichang where TGP is located, with local people accompanying me.



Map 1. Location of Changyang in relation to Yangtze river and Yichang

### 3.2.2. Selection criteria and level of analysis

So how did I select this specific field site? The central issue when selecting a case, was determined by accessibility due to language barriers (since I lack Chinese skills and every region speak their own accent). Thus, I chose to investigate Changyang since it fulfilled all criteria and I had access to a local translator (hereon referred to as Xiaoyu). There are currently three different dams in Changyang (see Chapter 4 for more information), however Geheyan dam was the first hydropower project constructed and thus become naturally selected as this research’s unit of analysis (for more information about Geheyan see chapter four).

Since this research investigate the affect of hydropower projects on people’s development from a long-term perspective, following selection criteria was defined;

- 1) Existence of a completed dam project

- 2) and this project should have been completed earliest year 1990
- 3) Relocation of at least 10,000 as a consequence of the project
- 4) The dam project should have been the result of central governmental initiative

Selection criteria one and two were chosen in order to highlight how socio-economic development has been affected after a certain amount of time. Many scholars have chosen to highlight the implications of hydraulic-projects 5-10 years after the projects completion. However, since economic development does not occur overnight, I believe that their results could be misleading and suggest that development projects should be evaluated from a long-term perspective. Thus, by investigating a project that was realized twenty years ago, I would be able to find people that are reflective and objective about the overall socio-economic development in the region and peoples' lives. Selection criteria three and four was selected in order to understand central government's role in development projects, and whether it was successful or destructive for local socio-economic development by investigating 1) general perception of development form a societal perspective 2) perception of HI between relocated and non-relocated 3) sentiments towards the central government.

Level of analysis within this research is mainly;

- 1) Societal: Perception on general public socio-economic development
- 2) Group-level; perception socio-economic development between relocated and non-relocated and between those relocated to urban and rural areas

According a report from Permanent mission of the PRC to the United Nations, UN (2003), Central government identify and include following aspects when enhancing development in autonomous minority areas: *infrastructure development (including roads, energy production, shipping etc.)*, *increased economic productivity*, *enhanced education, cultural protection* etc. (Permanent mission of PRC to UN 2003). Since 2000 Changyang have received governmental aid to alleviate poverty through additional investment in tourism (Jun 2010:22). This research argues that evaluation of Geheyan's impact on Changyang's socio-economic development from its birth (1984) until today, require the inclusion of following aspects; *infrastructure development, increased economic productivity, enhanced education and cultural protection and tourism*. By looking at these aspects, central and local governments efficiency and success/failure will be highlighted and evaluated.

This research also believes that two different time periods for analysis is required to enable comparison and evaluate Geheyang's impact on Changyang;

- 1) 1984-2000; *Geheyang dam's immediate effects*
- 2) 2000- Current; *Long term effects of Geheyang and development of Tourism*

### 3.2.3. Semi-structured interviews and Blue Gold conference

Qualitative studies believe their participants to possess the knowledge for ones research (Esaiasson et. al. 2007:287), and when agreeing with this belief I chose my participants strategically. Selection criteria for my target group was defined as following:

- 1) They should be *at least* middle aged, specifically minimum 40 years old (which would enable them to draw comparison between before and after the dam was constructed),
- 2) and should have been living in *the County* for at least 40 years (to make sure their presence before and after the dam was constructed).

Other limitations such as gender, profession, ethnic background, education, relation to the dam (migrant, non-migrant), hukou<sup>5</sup> (urban and rural) have not been relevant when *selecting* the target group from the first place, however there has been attempts to include participants from varied backgrounds. Thus, increasing heterogeneity within a homogenous group has been one research objective regarding participants.

Interviews were semi-structured in order to enable dynamic and flexible conversations<sup>6</sup>. In-depth interviews were mainly conducted the first week in order to gain qualitative insight into issues surrounding Geheyang's affect on the local development in Changyang county and to identify those aspects my participants considered as important. Accordingly, the first 12 in-depth interviews became my "entrance" to understand how the county had developed before and after Geheyang was constructed. I had some sub-questions in relations to the topics, and follow-up questions were shaped in relation to the information /statements that were provided, to gain deeper insight into aspects of interest. There were different questions asked to

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<sup>5</sup> Hukou is the Chinese household registration, which classify people as agricultural or urban. Depending upon which classification people belong to, they are entitled to different types of subsidies and much more.

<sup>6</sup> See appendix 3 for samples of transcribed interviews with participants

different groups and their expertise, e.g. my questions to a worker in the Geheyan Dam Electricity factory was mainly concerned with technical issues, to the local tourist guide my questions were emphasizing the development and importance of tourism, to the local geography teacher I was focusing on the geographical setting of the County, to dam migrants about their relocation experience and much more<sup>7</sup>. My second week, I revised our method to capture the general perception through conducting “shallow” interviews; we targeted middle-aged people around the town and introduced our research and ourselves. Later on, we asked them two opening questions;

- 1) how long have you been living in this County? and
- 2) How old are you?

These two questions enabled us to have a quick introduction of where the participants were from; if they were migrants (regular and dam) or locals (from the town), and if they belonged to my target group. Thus, based on these the next question was framed:

- 3) How has Changyang developed before and after the dam?

Depending upon my participant’s answers I could ask follow-up questions and have more in-depth interviews if necessary. Follow-up questions were based on the topics that had reoccurred during in-depth interviews. These shallow interviews were shorter, however efficient in gaining understanding about the general perception<sup>8</sup>

Interviews with the directors of the Changyang’s Migration bureau (CMB) and Tourism bureau (CTB) were conducted at the final phase of my field study. At this point, I had gathered enough background knowledge about Geheyan’s affect on Changyang, enabling me to frame specific interview questions<sup>9</sup>.

“Blue Gold conference held by the Royal Danish Consulate and in Shanghai, had several Chinese and foreign experts presenting current perspectives on Chinese hydropower development. Blue Gold was given when my research had reached its final phase. After the conference was completed, I had the opportunity to ask some

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<sup>7</sup> See appendix 4 for overview of interview questions

<sup>8</sup> See appendix 5 for an overview of topics discussed

<sup>9</sup> See appendix 6 for transcribed interviews from Directors of CMB and CTB

questions to Professor Heng, a prominent Chinese scholar on hydropower development and projects in China.

### 3.2.4. Overview of participants' background

There were in total 62 interviews conducted, however when revising collected material, eight interviews were considered to weak (for instance few statements and to short) leaving 54 interviews 22 participants were male and 32 female<sup>10</sup>. There are no specific reasons for disproportional inclusion of genders. There were some exceptions to the target group, due to some participants' personal qualifications and knowledge; such as the local tourist guide, a Geheyan factory worker etc. however 46 participants (out of 54) fulfilled my selection criteria. Table 1 presents an overview of participants' age.

Table 1. Distribution of age among participants

| Age group    |    |
|--------------|----|
| 20-29        | 2  |
| 30-39        | 6  |
| 40-49        | 31 |
| 50-59        | 10 |
| 60 and above | 5  |

Participants were locals, rural migrants, relocated people (due to Geheyan) and other types of residents. Locals refer to people that has either been born in Lungzhouping or been living there before 1980's until today (four participants migrated before this time-period). Rural migrants are those that were not relocated, however that migrated from rural areas to Lungzhouping. Relocated people refer to participants that were relocated in relation to Geheyan dam. All relocated people in the study had been first relocated to rural areas, and later migrated to Lungzhouping through own initiative. Category defined as other includes migrants from outside Changyang and rural residents (two participants respectively). The table below clarifies the proportion of participants;

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<sup>10</sup> See appendix 7 for an overview of participants attributes

Table 2. Proportion of participants

| <b>Status of participants</b> |    |
|-------------------------------|----|
| <b>Local</b>                  | 21 |
| <b>Rural Migrant</b>          | 22 |
| <b>Relocated people</b>       | 7  |
| <b>Other</b>                  | 4  |

There were in total 35 participants (regular migrants and relocated people) that had migrated from rural areas to Lungzhouping, however only 30 participants mentioned which year they migrated. Table 3. is an overview of migration pattern over the years

Table 3. Rural-urban migration pattern

| <b>Migration year (26/31 told)</b> |    |
|------------------------------------|----|
| <b>2000's</b>                      | 8  |
| <b>1990's</b>                      | 10 |
| <b>1980's</b>                      | 8  |

Participants in this research constituted of male and female participants, urban and rural participants, low and highly educated. Thus, the heterogeneous background and socio-economic status of my participants will enable me to highlight the “general” and the individual perception. Participants thus belong to variety of professions; high positioned company managers and employees, educators, local officials, street vendors, service sector employees (within restaurants and hotel) and small shop owners – in which the last constitutes the majority.

### **3.2.5. Topics discussed and classification**

Topics that reoccurred during my in-depth interviews became my main topics which I focused on during my second week and were as following; flooding, electricity, infrastructure, tourism, urbanization, fishing, migrants (from rural to urban, non-relocated people) and economic opportunities /improvement of living standards.

Topics were divided into Geheyan's immediate and long-term impacts, and the table below provides an overview of how many participants these topics were discussed with.

Table 4. Amount of participants immediate and long-term impacts of Geheyan dam on Changyang, was discussed with.

| Immediate impact |             |                | Long-term impact |              |         |
|------------------|-------------|----------------|------------------|--------------|---------|
| Flooding         | Electricity | Infrastructure | Tourism          | Urbanization | Fishing |
| 28               | 26          | 34             | 41               | 31           | 26      |

Flooding, electricity, infrastructure and migration are classified as immediate impacts caused directly by Geheyan's realization whilst tourism urbanization and fishing are considered as long-term impact. Education, socio-economic and cultural development were incorporated into these topics. Relocation issue was discussed with eighteen participants, and socio-economic development with all participants.<sup>11</sup>

### 3.3. Research limitations

Limited time and space I have chosen to focus solely on the importance of water dams from a socio-economic perspective, with Geheyan as my sole focus. There are three water dams located on Qingjiang river, and since Geheyan is the oldest among them – naturally this research paper will highlight Geheyan without excluding the importance of remaining dams. Neither will the relationship between local government and central government be highlighted; instead Changyang residents' perceptions of the central and local government will be included. I had unfortunately not enough time to visit areas that experienced *decreased* water level caused by Geheyan, limiting this research to areas that experienced increased water level. I am aware that excluding this field site from my research might be problematic, since this geographical location could have different opinions about Geheyan's impact on non-relocated people. However, my interviewees were both locals and migrants from different areas around the County, limiting the significance of this lack.

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<sup>11</sup> See appendix 8 for more information about the field study



## 4. Geheyan's immediate impacts

This chapter highlight immediate effects of Geheyan, by looking at the development that occurred between 1984 and year 2000 - focusing on flood control, electricity, shipping and relocation. Thus, the research question in this chapter is defined as; *how was Geheyan implemented and what were its immediate affects on Lungzhouping and its surrounding area?*

### 4.1. Infrastructure investment and Geheyan

In pre-reform era mountainous topography in rural areas discouraged investment in road development (Fan et. al. 2004:401), indicating that infrastructure in Changyang was poorly developed. Since 1985 CCP started emphasized road construction in rural areas, channeling more capital into this section (Fan et. al. 2004:401). Simultaneously development of telecommunication infrastructure experienced a similar growth pattern as road construction, with the difference that this sector also attracted capital investment form private investors, speeding up the process even further. Central and major destination for governmental (CCP) investment was in rural electricity (Fan. Et. al. 2004:401). Thus, beginning of 1980's national development strategy emphasized implementation of infrastructure development in regards to telecommunication, road and power /electricity to enhance industrialization and urbanization. Changyang's first hydropower station was established within this strategy.

Geheyan dam was the first major infrastructure project implemented in Changyang, and is located on Qingjiang river (see image 2 for Geheyan dam). When participants were asked to describe the developments in the County before and after Geheyan was constructed, many argued that people were "poor" in terms of socio-economic development, infrastructure, consumption patterns, job opportunities and much more.

Plans for constructing dams on the Qingjiang river had been carried out since 1950's by Chinese scientists. In 1985 a "20-year development stage was issued by the

Yangtze River Water Conservancy Committee (Fan 2003) and together with China Gezhouba Group Corporation (CGGC) and China Railway bureau these state-owned enterprises were in charge of engineering, procurement and construction of Geheyan dam (CGGC official webpage). “Water and electricity department” (Shuei ni shuei dian department) within the central government and Hubei provincial government cooperated and financed Geheyan (director of Migration bureau 2012.02.10). Central government financed 49 percent of costs, whilst Hubei provincial government funded remaining 51 percent (interview 6 2012.01.30). Hubei Qingjiang Development Company, later renamed to Hubei Qingjiang Hydraulic Development Corporation (HQHC) was established, becoming the operator for Geheyan (Fan 2003, CGGC official webpage).



Image 2: Geheyan dam on Qingjiang river, Changyang, Hubei Province. (Photo: Zeynep Erdal)

TGP, located on Yangtze river, had three main purposes; ensure flood-control of the Yangtze river, produce energy in terms of electricity and navigation (Sutton 2004:11, Heming et. al. 2001:195). Since both central and Hubei provincial government advocated Geheyan and TGP, and they are geographically close (in the southern belt), it could be argued that same motivational factors in realizing TGP could be applied for Geheyan.

## **4.2. Securing development through controlling floods**

Qingjiang river is the second largest contributor to the Yangtze river, located in its upper reaches (Fan 2003). According to Yan and Qian (2004) Environmental problems had significant role in regional economic development; natural disasters in lower and middle reaches of Yangtze in terms of flooding increased due to environmental deterioration caused by “reduction in forest and vegetation covers and attenuation of the water conservancy capacity”, exerting negative influence on peoples’ livelihood and socio-economic development (Yan and Qian 2004:614). During 20<sup>th</sup> century floods in middle reaches of Yangtze had caused the death of 300 thousand people and disrupted regional economic development (Sutton 2004:118).

### **4.2.1. Destruction of livelihood**

Lungzhouping is located on the middle reaches of Qingjiang river, and this region had similar experience of natural disasters as Yangtze; several of my participants recalled and confirmed existence of floods before Geheyan was constructed. Floods occurred every two-three years between May and August, damaging crops and farming land (and henceforth productivity) for that year (Interview 30 and 34 2012.02.05). Since Changyang was an agricultural society during 1980’s, farming was the most widespread economic activity. Floods naturally affected farmers negatively, challenging their economic productivity, food security and physical safety.

Severe flooding occurred occasionally, damaging livelihood and physical safety of those people located in lower areas. One of my participants recalled three severe flooding that occurred between 1967 until Geheyan’s realization, (Interview 35 2012.02.35). Mr. Zhang, a local geography teacher, was raised in rural mountainous areas and he recalled a story his parents told him;

I was born in June 1959 and the same year almost two months after, around August there was a flooding. The house we were living in was flooded so my parents had to carry me and move to higher positions on the mountains for our safety. The first floor of our house was flooded (Mr. Zhang, personal communication, 2012.01.30).

There might have been several floods, but there is especially one flooding that several people in Lungzhouping recalled; one that occurred in May 27 1969. Several participants highlighted how the water had reached the Old street and Qingjiang road

(the only roads existent during this period) located in downtown area. Houses and farming lands were damaged, washed away and some people even lost their lives (Interview 46 2012.02.07). An elderly local added that the rice bureau was located downtown, and had been flooded bringing shortage of rice for that year (Interview 49 2012.02.08). Mrs. Liang moved to rural areas in Changyang before Geheyan dam was constructed and she explained her sentiments towards the floods, recalling psychological burdens it brought;

The lands would usually be flooded and destroyed. But now we do not have to worry about it... At that time local people were very familiar with floods, so they did not show much caution, and I was very worried because the floods were coming. I moved some things to a safer place and ended up hurting my fingers. Nowadays, I do not have to experience that kind of worry (Mrs. Liang, personal communication, 2012.02.01).

This statement clearly indicates the psychological relief that was brought when floods were controlled. Besides controlling floods on Qingjiang, Geheyan dam also helped controlling floods on middle and downstream areas of Yangtze; for instance Geheyan played an important role in controlling floods in 1998 (Fan 2003). Henceforth, Geheyan have a central role in securing the livelihoods of people in Changyang County and to some extent also Yangtze River (until TGP was completed in 2004).

#### **4.2.2. Increase of water level**

In early 1990's when Geheyan dam "cut the river", water level increased by almost *100 meters(!)* around the reservoir area, flooding land and houses. At my visit to the reservoir and rural mountainous areas where Geheyan is located, it was hard to imagine the losses brought by increased water level. The scenery reveals its unnatural setting when looking at how Qingjiang river cut the mountains. There is no natural passage from Qingjiang to the mountains such as beaches. The increase of water level has however been uneven; Lungzhouping is located in downstream area of Qingjiang and Geheyan, and according to several participants the water level increased with 14 metres around this area. For instance, two oldest streets in Lungzhouping downtown area, Lao jie (Old street) and Qingjiang road, was preserved. However, Lungzhouping's beaches and plain areas along the river branch were

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flooded. Pictures below portray Lungzhouping before and after Geheyan was constructed (see image 3 and 4).



Image 3: Current topography of rural areas in Lungzhouping (after the water level increased). Photo: Zeynep Erdal



Image 4: Left, portraying the riverbed before water level increased. (Personal collection of local contact in Changyang) Right, current image of riverbed (Photo: Zeynep Erdal).

These pictures provide a clear image of how the riverbed looked like before and after Geheyan dam was constructed. I was surprised over the flat area and the existence of grass. Increased water level in practice meant that huge amounts of farming land and residential areas located on lower mountainous (rural) areas were flooded, resulting in land scarcity.

### 4.3. Hydroelectricity and increased tax income

The Yangtze Valley surrounding Changyang inhabits approximately one third of the Chinese population (400 million) and is a key-area in terms of agricultural and industrial production. However, industrial cities located along Yangtze (such as Wuhan, Chongqing and Shanghai) have experienced hampered industrial expansion due to limited energy resources (Sutton 2004:118). Accordingly, the central government has advocated construction of hydroelectric projects to meet China's and this regions increasing energy demand. Construction of Geheyan power station started January 15 1987; first electric generator started functioning in June 4 1993 and the last and fourth generator started functioning in December 1994 (Interview 6 2012.01.30). Mr. Feng, added that local electricity consumption is lower than the actual electricity produced by Geheyan, thus remaining electricity is distributed to industrial and economically developed areas where demands for energy is higher such as Wuhan and Shanghai (Mr. Feng personal communication 2012.01.29) Nanjing, Hangzhou etc. Thus, electricity generated by Geheyan is transferred to Changyang and surrounding industrial areas.

I had the chance to meet Mr. Peng, whom has been working at Geheyan power plant since 1991, and he explained the distribution of electric transmissions;

Electricity from third and fourth generator are transmitted to eastern part of China such as Shanghai, whilst the electricity produced by generator one and two are transmitted to State Grid and then distributed (Mr. Peng 2012.01.30).

This statement indicates that Geheyan play a vital and pragmatic role in supplying local and nearby regions with electricity to enhance their development.

Geheyan power plant belongs to in State Grid Corporation of China (SGCC), Middle electricity network).<sup>12</sup> Ms. Ling, a worker at Changyang SGCC, highlighted that there are currently several small hydropower stations located at the branch to Qingjiang river, generating electricity to local factories and households (Ms. Ling, personal communication 2012.01.30). So what is the role of State Grid in Changyang? Mr. Zhu added that local SGCC's enterprise "will buy the electricity for a lower price and sell it for a higher price. The selling price depends upon different groups such as factories,

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<sup>12</sup> There are five different electricity networks in State Grid- based on geographical location.

offices, common people and agriculture” (Mr. Zhu personal communication 2012.02.01).

Revenues generated by Geheyan (and other power plants located on Qingjiang), provided sufficient energy for factories to function and increased governmental income (through tax-payments), contributing to local development. Another economical benefit was increased demand for human resources, presenting locals with new job opportunities (Interview 2 2012.01.29). Due to land scarcity, many young people from farmer families migrated to Lungzhouping from rural areas in order support their own and families’ income.

Several factories operate in Changyang, such as magnesium, mineral and coal, enhancing local development through tax payments and creating job opportunities for local people (Interview 17 2012.02.02). Mr. Zhang also underlined that limited electricity supply had hindered development of efficient factories, before Geheyan was constructed (Mr. Zhang, personal communication 2012.01.30). Mr. Zhu, a high-positioned employee at Changyang SGCC, added that these factories were small-scale (Mr. Zhu personal communication 2012.02.01). Tax-payments seem to have been an important and central source of governmental income in Changyang; several participants argued that tax payments from Geheyan provided the local government with stable income, enabling it to invest in local development projects. The SGCC argue that;

the mission of the company is to provide safe, economical, clean and sustainable electric power for social and economic development (SGCC 2011.08.31)

This statement clearly highlight that there is a connection between electricity and social and economic development, with a perception that hydroelectric projects promote environmental protection and sustainability. In terms of economical and social benefits, Geheyan seem to have offered new sustainable income for local government and people. However, it is important to acknowledge that even though Geheyan itself produce environmental friendly renewable energy, the factories it supplied produced pollution - indicating that economical development was advocated at the expense of environmental protection during this time period

#### **4.4. Infrastructure and transportation development**

When investigating how Geheyan dam had affected Changyang, many participants underlined improvement of infrastructure. When reading about dam projects indirect investments that pour into prospective dam locations, in terms of infrastructure development, are usually neglected attentions. Before Geheyan, Lungzhouping had only one main road; Qingjiang Road and paved roads were non-existent. Many participants recalled how the sandy roads became muddy after rainy days. People crossed Qingjiang through small boats, since low water level disabled shipping. There were few cars because of high purchasing price and inconvenient roads, caused by Changyang's mountainous geographical setting and low infrastructure investment. Transportation within the County was mainly carried out on motorcycle, bike or small boats (without engine). Roads in rural areas were almost nonexistent and people had neither cars nor motorcycles for transportation since it was unaffordable (Interview 34 2012.02.05). Mr. Zhu could only recall one regional road (located along Qingjiang) that connected Lungzhouping with surrounding towns and villages (Mr. Zhu personal communication 2012.02.01).

CGGC's official webpage provide a brief background of projects it has developed and constructed:

...approximately 3000 nuclear power stations, thermal power stations, substation and transmission works, highways, railways, bridges, dikes, docks, ports, environment protection works, communication works and housing (CGGC official webpage).

This statement clearly highlights an interrelationship between infrastructure development and construction of hydroelectric projects. Since CGGC were involved in charge of Geheyan's engineering, procurement and construction, next question would be whether Geheyan affected Lungzhoupings infrastructure development?

The central government and its representatives (referring to enterprises and political parties involved in the project) invested in infrastructure development in order to enable transportation of human resources and construction material. Several participants mentioned that experts and workers had been transferred to Changyang to construct Geheyan. Construction material required to be transported through trucks, making existent roads insufficient (Interview 1 2012.01.28). As a result new roads



were constructed and paved, connecting Lungzhouping with Yichang and its surrounding area. Accordingly, it could be concluded that infrastructure development was a crucial aspect in realizing Geheyan itself, which additionally improved Changyang's interconnectedness within and with nearby regions.

#### 4.4.1. Road infrastructure and loss of beaches

Telecommunication and electricity facilities were improved to enable communication and electricity transfer to SGCC's net. However, Mr. Zhang, also highlighted how telecommunication was improved through the construction of electricity lines: "telecommunication before the dam was mainly fixed, afterwards people could use cellphones" (Mr. Zhang personal communication 2012.01.30). Telecommunication thus facilitated communication and interconnected Changyang with other regions.

As mentioned before transportation opportunities and choices in crossing Qingjiang were few. Qingjiang bridge was the first bridge connecting both sides of Qingjiang river, and is considered as one of the most valuable investments that was made in relation to Geheyan (see image 5). The bridge enabled Changyang residents to transport commodities and people across the river on land. This bridge was also used for transporting material to the Geheyan construction area (Mr. Zhu personal communication 2012.02.01).

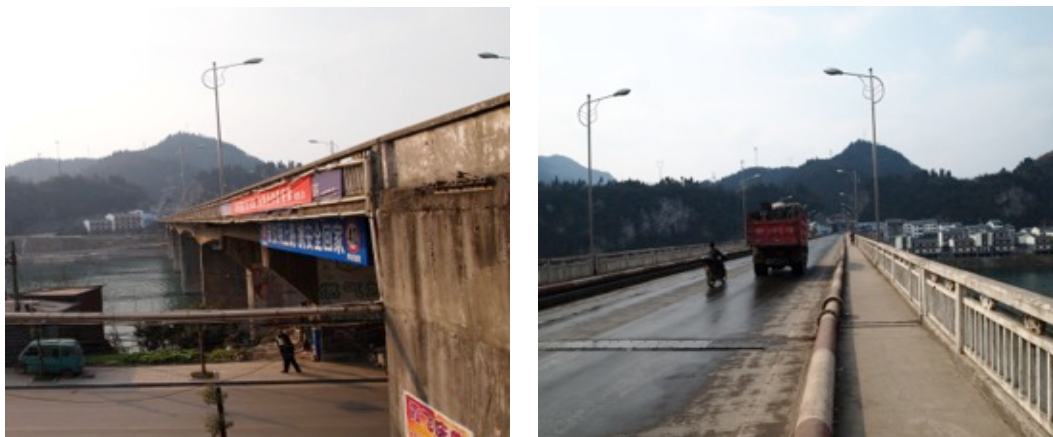


Image 5. Qingjiang bridge, in Lungzhouping. Photo: Zeynep Erdal

During my field study I encountered, Mrs. Yang who had been relocated due to Qingjiang bridge (Mrs. Yang personal communication 2012.02.02). When reading

about relocation caused by dam projects, none of the articles I came across had highlighted how people were relocated as an *indirect* cause of hydraulic projects (in this case infrastructure investment). People relocated in relation to Qingjiang bridge are classified as “relocated people”, entitled to same legal treatment as people relocated due to increased water level.

An additional reason for infrastructure investment, concerned compensation for losses that increased water level Geheyan caused. Mr. Zhu explains that Geheyan flooded the only road connecting Lungzhouping with its surrounding towns and counties. Consequently provincial government replaced it with a new road located along Qingjiang, naming it Southern road, (Mr. Zhu personal communication 2012.02.01). Another precious thing that became flooded, were Changyang’s beaches - which was replaced by riverbanks and a double-sided sidewalk (see image 6). Several participants expressed their emotional attachment to the river and its beaches, explaining the crucial importance of this area for social gatherings. The beach functioned as a sphere for families, friends and couples to meet, exercise and enjoy the natural scenery along Qingjiang.



Image 6: riverbed of Changyang before and after Geheyan was constructed. The picture to the right show the sidewalk along the river and the Southern road. (Photo: left, retrieved from a local’s collection, right Zeynep Erdal).

The beach contained unique stones called “Qingjiang stones”, which people collected and sold for decoration (Interview 3 2012.01.29). Although Mrs. Ping, an elderly

local, enjoyed the “modern and nicely decorated” riverbanks and sidewalk, she still expressed her feelings about the change;

Before I could play around the river and touch the water, but now I can only see it and play aside the banks – but not touch it (Mrs. Ping personal communication 2012.01.29).

This statement clearly highlight that increased water level and disappearance of riverbanks, detached local people from their physical natural environment and one of their most important spheres for social gatherings. During my visit I noticed that people frequently used the riverbanks for social gatherings; going for a walk, practice their morning exercises, gather with family and friends to enjoy the view, play cards with their friends and much more (see image 7). People of Changyang have thus incorporated their social interaction into the new riverbanks, servicing them as a platform for different social activities.



Image 7. Left: An old women practicing taiji in the morning by the riverbed. Right: Elderly locals gathered by the riverbed playing cards. Photo: Zeynep Erdal

#### **4.4.2. Development of shipping**

Increase of water level enabled new type of transportation system; shipping (Mr. Feng personal communication 2012.01.29). Numerous participants highlighted how shipping became a central component in commercial activities; transportation of people and export of locally produced commodities such as coal, sand, minerals and tangerines (Mr Zhang et. al. personal communication 2012). Thus, farmers, local factories and enterprises could easily export their products within and outside

Changyang. Rural areas changed in its typography; approximately one hundred “islands” emerged, increasing travel distance on water between villages located on opposite side of Qingjiang, whilst travelling from riverbed to higher mountainous areas became closer (100 metres decrease after Geheyuan). Travelling became more convenient since people could use shipping (Interview 29 2012.02.04). A rural migrant also mentioned that “people started using their own small boats to transport people” (Interview 53 2012.02.08), indicating that usage of shipping became more frequent creating new job opportunities for Changyang residents. A middle-aged rural migrant worker added that shipping made travelling from mountainous rural areas to urban areas more convenient and cheaper (Interview 29 2012.02.04.).

Geheyuan is located on middle reaches of Qingjiang river, it could be argued that shipping between upstream areas of Qingjiang to Lungzhouping were nonexistent. However shipping from Lungzhouping (and other areas below Geheyuan) to Yangtze River was more convenient and also economic activity in this area was more intense. After Geheyuan several dams were constructed along Qingjiang, and according to my participants these lack or have inconvenient ports, making traveling by ships inconvenient Mr. Feng highlighted this development:

Before there were no barriers, boats could travel all the way to Shanghai. Today the river is blocked because of the dams. With the development of railway and airplane people from Shanghai can still travel here easily, but not through shipping (Mr. Feng personal communication 2012.01.29).

Gaobazhou (completed in 1998) is located on downstream of Qingjiang river and on the branch to Yangtze River, (industcards) blocks the way between Lungzhouping and Yangtze (Interview 29 2012.02.04). This indicates that before Gaobazhou’s construction, people below the location of Geheyuan (located on middle reaches) could easily transport, export and /or import commodities, people etc. along Yangtze river. However, constructions of new dams limits this interaction.

#### **4.5. Relocation strategy and implications**

Previous sections highlighted immediate returns that were advocated by the central government. This section will highlight another immediate effect (however not

wishful) of hydropower projects; relocation. So *how was relocation implemented and how did it affect relocated peoples livelihood and socio-economic development in Lungzhouping immediately after relocation?*

One of the most controversial issues regarding hydropower projects has surrounded its negative impact on relocated people. Due to increased water level created by dams, peoples' properties, houses and farming land are flooded. People are thus forced to resettle in new areas through government directives. So how was the relocation in Geheyan implemented and by whom? The director of Changyang's Migration bureau (CMB) explained that the local and central government implemented the relocation process. Whilst a department within the central government jurisdiction was in charge of planning and constructing Geheyan, local Migration bureau implemented the actual (physical) relocation process including compensation payment. The Migration bureau itself was established in 1986, same year (but after) Geheyan began construction and its main responsibilities are to distribute compensation to relocated people for new farming land, houses and resettlement (Director of CMB personal communication 2012.02.10). Relocation in relation to Geheyan, occurred between 1986 and 1993, 51 villages were flooded, forcing 50,000 people (out of Changyang's 400,000 residents) to relocate.. Approximately 80% (40,000 people) was moved to upper mountainous areas, whilst 20% (10,000 people) moved into nearby towns or counties (Director of CMB personal communication 2012.02.10).

According to several Lungzhouping locals, downtown area constituted of a few houses before Geheyan, becoming more populous in relation to the relocation process. From participants' statements and stories there seem to have occurred two different migration waves from rural areas to Lungzhouping. First migrant wave constituted relocated people and occurred between late 1980's and beginning of 1990' (before Geheyan was completed) mainly constituting of relocated people, whilst second wave began after Geheyan was completed. Following sections will highlight 1) the national relocation strategy including compensation and physical relocation process implemented in relation to Geheyan 2) sentiments and motivations regarding relocation and 3) the impacts on peoples' livelihoods in immediate post-relocation period.

#### **4.5.1. Compensation**

The director for Migration bureau stated officials from national and local migration bureau would visit prospective dam migrants to reach an agreement regarding their relocation. Relocated people signed a contract containing information regarding their compensation, based on their households property value e.g. amount of farming land, house quality, and amount of individuals in the household. For instance, brick houses had higher capital/compensation value than houses made of sand (Director of CMB personal communication and Ms. Li 2012) indicating the existence of individual payment schedules. One participant that had been relocated together with his family expressed the secrecy surrounding compensation created by these individual payment schedules;

The amount of compensation for each family is different, and thus it is a secret a family keeps. People are not willing to tell others (Interview 27 2012.02.04)

Compensation included resettlement fee, housing expenses and farming land. The resettlement fee was 2,000 rmb per person (Director of CMB personal communication 2012.02.10). Mrs. Ping stated her salary was approximately 350 rmb per month in 1989 (Mrs. Ping personal communication 2012.02.29), which could be used as a reference when understanding the purchasing value of compensation given during that time period. This indicates that the resettlement fee itself accounted for approximately 6 months salary (350 á 6 months 2,100 rmb).

#### **4.5.2. Housing**

The government mainly gave housing compensation in terms of capital, making relocated people responsible for constructing a new house (Director of CMB personal communication 2012.02.10). So where did these people move? Migration director stated that relocated people could choose their destination for resettlement, including urban areas;

Actually there are also two ways (for relocation); firstly, the (local) government is responsible for finding them a new place, especially in other counties and cities. Second option is that migrants themselves find new place to live (Director of CMB personal communication 2012.02.10).

There existed a consensus among my participants that restoring housing was psychologically difficult, and many lived under poor health conditions whilst struggling to construct their new home. Relocated people in urban and rural areas stayed with relatives, friends or set up tents while waiting for their houses to be reconstructed. One relocated participant stated that her family had to cover some of housing expenses, because of quality difference between their former and new house (Interview 12 2012.02.02). One explanation provided focus on quality difference; houses during this time-period were usually made of sand and other cheap material, whilst houses constructed after relocation were made of more expensive material such as concrete or bricks. This clearly indicates that this shortfall occurred due to change of material - rather than “inaccurate compensation”. However, from participants perspective, housing compensation was limited creating an economical setback for many families.

#### **4.5.3. Rural relocation: farmland**

Compensation related to farmland was granted to residents relocated to upper mountainous areas, distributed by the government. Two different strategies was deployed when distributing compensation; non-relocated people would give their relocated counterparts a share of their land or the government would explore new areas (usually in upper mountainous areas) suitable for farming (Director of CMB personal communication 2012.02.10). Mrs. Yifan recalled the difficulties she and her family faced immediately after relocation;

It was difficult to restart a new life, when we moved to upper areas the government gave us money as compensation and we had to re-build a new house and explore new farmland (Mrs. Yifan personal communication 2012.02.02).

Mrs. Yifan’s parents started planting tangerines for commercial use (through exporting it), to generate an economic income. According to Mrs. Yifan tangerine plants require approximately 3-5 years, before economic income can be generated (Mrs. Yifan personal communication 2012.02.02). This indicates that restoration of production system is time-consuming, leaving farmers with limited economical income until their plants had become mature.

Other factors affecting economic income were decreased access to land and decreased land quality; water level increased approximately 100 metres and only 20 percent of the 50,000 people were relocated to non-rural areas. A participant that was living in rural areas during that time period highlighted these changes;

Before the construction of the dam people lived more widespread, but afterwards they started living more close to each other (Interview 29 2012.02.04),

This clearly indicates that population density increased, decreasing per capita land availability. Mrs. Yifan highlights the affect of limited land availability on farming:

Before the construction of the dam we could farm and develop several vegetables, but afterwards there were not enough farmland. The economy was confined (Mrs. Yifan personal communication 2012.02.02).

Mrs. Yifan underlined that variety of vegetables decreased due to limited per capita land availability, affecting farmers' socio-economic development negatively. Some other participants underlined that upper mountainous soil quality was worse, making restoration of production systems harder (Interview 9 2012.02.01).

Ms. Li, is a farmer in rural areas, and her farmlands were flooded due to Geheyuan. She complained that the government had denied compensation for her land losses since her house was not affected, even though she was forced to explore new farmland in upper mountainous areas as a consequence (Ms. Li personal communication 2012.01.31). Jing (1997) and Heming et. al. (2001) highlights how decreased soil quality affected relocated people in TGP; people had been relocated from rich fertile lands to upper mountainous areas with decreased land quality which made restoration of production systems more challenging (Jing 1997:84 and Heming et. al. 2001:205). These arguments is applicable for Geheyuan; in line with findings in previous research, Mrs. Yifan and several other participants from rural areas argued that soil quality in upper areas contained worse quality, requiring more time and effort – for farming to become as beneficial as during pre-relocation process. Thus, land availability and quality decreased presenting a major challenge in terms of restoring production systems. Compensation was only granted for those residents whom lost their house, although a wider range of people experienced losses caused by increased water level.



Farmers also experienced technical difficulties limiting their production capacity; according to Ms. Li, existing water, electricity and roads systems had been damaged flooded as a consequence of Geheyan. Rural residents themselves had to repair electricity lines and roads, and restore water systems. However economical investment was limited, reparation became limited. Ms. Li drew a comparison; before Geheyan, people had access to tap water, however currently they are using pumps to access water (Ms. Li personal communication 2012.01.31). It could be argued that destruction of infrastructure facilities pressured rural development and farming. This is crucial in understanding the impact of hydropower projects on local development. Ms. Li together with many other people residing in this village was not relocated, but was still affected by Geheyan. Destruction of existent infrastructure in this village, as in many other villages, made their conditions for socio-economic development harder then before Geheyan.

#### **4.5.4. Urban relocation: loss of subsidies and occupation**

For people relocated to rural areas, soil quality and quantity was heart of the matter. However, for those relocated to urban areas - government subsidies and loss of previous occupation was more important. Mrs. Jianfeng, a local shop owner, stated people were denied government subsidies on food after relocation;

Many dam migrants came to this town because the dam replaced their houses. Before the construction of the dam, migrants were classified as farmers in their hukou and during that time rice prices were very cheap and there was no marketization. After the dam, they lost their farmlands and their hukou was changed to non-agriculture (urban) hukou. They could not benefit from agricultural (rural) hukou and during this period, the government had many policies for rural households. So when their hukou was changed people could not benefit from these policies. After the relocation, people had no farmland, and the rice prices were more expensive (Mrs. Jianfeng personal communication 2012.02.02).

So why were food subsidies relevant? People relocated to urban areas had none or limited access to farmland. Mrs. Yang highlighted that;

There were no farmlands left, so people was forced to change occupation. Most of them were farmers and they began working in temporary jobs (Mrs. Yang personal communication 2012.02.02).

This statement indicate that farming as occupation decreased. Hukou might be insignificant regarding relocation process per se, however relocated peoples' transfer from rural to urban hukou classification had vital importance regarding food subsidies and security, making food prices more expensive. It is important to acknowledge that relocated peoples traditional occupation (farming) secured their food access, but after relocation food commodities needed to be purchased. According to Heming et. al. farmers relocated due to TGP experienced difficulties in finding an urban occupation due to their limited (urban) working experience (Heming et. al. 2001: 34). This finding is applicable to Changyang as well, and when combined with loss of governmental subsidies – people relocated to urban areas faced hardship in restoring their economic income and food security.

People relocated to urban and rural areas experienced different problems, however similar pressures were prevalent; house security, food security and restoration of production system was challenged.

#### **4.5.5. Sentiments towards relocation**

When asking the director of CMB about sentiments towards relocation, he expressed that majority of people were willing to move since Geheyan was “a national project and it was for the sake of the whole nation” (Director of CMB personal communication 2012.02.10). Another participant confirmed this perception stating;

Most of them were willing to move. Because it is a national project they had to move for national reconstruction (Interview 57 2012.02.09)

These statements highlights that relocated people felt obliged to move for “national reconstruction” and development. Several participants with direct experience of the relocation process (either themselves or relatives had been relocated) highlighted that people were in favor of Geheyan. However, this does not necessarily mean that sentiments towards relocation were positive. During my field study I encountered several dam migrants, confirming that government officials had visited them in order to “persuade” them of resettling for “the nation”, indicating that government propaganda was prevalent. So was there any opposition towards relocation? Mrs. Liang moved to rural mountainous areas before Geheyan was constructed and she highlighted that elderly people were main opponents towards relocation;

Some old people were against the construction of the dam so they slept on the road (Mrs. Liang personal communication 2012.02.01).

Director of CMB confirmed this opposition (Director of CMB personal communication 2012.02.10). According to Mrs. Liang governmental officials eventually succeeded in persuading these people to resettle (Mrs. Liang personal communication 2012.02.01). Young people on the other hand, were described as the largest group in favor of relocation, perceiving it as an opportunity;

Majority of the people was in favor of it. At that time people were poor and they thought that the central government would fund this place through constructing the dam, promoting the economy to improve peoples' lives (Mr. Feng personal communication 2012.01.29).

Several participants expressed the hardship that they faced because of disrupted and disoriented social networks caused by relocation. Most serious psychological challenge with relocation, concerned family bonds and social networks; parts of villages disappeared and resettlement was carried out to different areas, tearing up well-established social networks and bonds.

To conclude this section, it is apparent that there were mixed sentiments towards relocation. However, majority of people favored Geheyan since it was for “national re-construction”. It could be argued that older residents suffered psychologically, since they opposed it - whilst young people considered relocation as an opportunity to change their lifestyle.

#### **4.5.6. Increase of prices and rural underdevelopment**

Issues surrounding compensation was discussed with fifteen participants (including both relocated and non-relocated people) and vast majority were critical about the compensation given, expressing that it was “not enough” to restore livelihoods neither in urban nor rural areas. There were comments such as “the compensation was too little to keep us quite” (Interview 32 2012.02.05), “the government promised them to give them money, but the money was not enough” (Interview 46 2012.02.07). So in which way was the compensation “not enough”? Mr. Yu resided and worked as a farmer in the reservoir area before Geheyan. He explained that;

Standard of prices for food was lower, so in the first couple of years people could afford the prices. However later prices increased, and the money was not enough to cover expenses anymore (Mr. Yu personal communication 2012.02.05).

Thus, whether compensation was perceived as enough or dissatisfactory was evaluated in reference to peoples' ppp. The imbalance between commodity prices and income also expressed itself among local, non-relocated people; Mrs. Ling moved from Yichang to Lungzhouping before Geheyan was completed and she stated;

At first all people felt very happy about the dam (Geheyan), but later not. The rapid increasing of prices was the main reason why people were not feeling happy. The economical development increased commodity prices, but salaries maintained the same. The prices here (Lungzhouping) were higher than downtown Yichang (Mrs. Ling personal communication 2012.01.30).

(Commodity prices increased whilst income level (both salary and compensation) remained same, limiting relocated and non-relocated peoples purchasing power. This development increased grievance among Changyang residents, especially among relocated people, since compensation was not adapted to these new circumstances. Henceforth, main reason for people becoming unhappy about Geheyan was *not* related to the dam itself, rather to unforeseen economical limitations that occurred as a consequence. Economical frustration triggered a second rural-urban migration wave, motivated by better job opportunities and higher salaries. Economical returns from farming were lower than from non-agricultural/urban sectors (director of CTM personal communication 2012.02.10). Farmers' economic productivity decreased due to earlier mentioned conditions (land scarcity, time consuming restoration of production systems and "limited compensation" were different factors prevalent in decreasing economic income which motivated people that were relocated to upper mountainous areas to migrate to urban areas.

## **Reflection**

The research question in this chapter was defined as *how was Geheyan implemented and what were its immediate affects on Lungzhouping and its surrounding area?* The central government in cooperation with provincial government invested in

infrastructure development to enhance urbanization and industrialization. Geheyan was constructed within this context. Geheyan affected Changyang and its surrounding area in many respects. This chapter first highlighted the devastating affect of flooding on local people's lives and socio-economic development through damaging crops and farmland, later outlining how control of flooding secured local peoples livelihood and socio-economic development.

Electricity produced by Geheyan had two different purposes; secure energy access to households and factories in other regions and supply Changyang with energy. Accordingly, local factories were promoted, increasing pollution. One interesting finding was the indirect infrastructure investments that occurred in Changyang, because of Geheyan; its construction required established infrastructure (that was non-existent), resulting in development of roads, bridges and telecommunication infrastructure.

Increased water level enabled shipping, presenting local people with a new mode of transportation system for themselves as well as commodities. Shipping also enhanced the development of local factories through facilitating export. Local job opportunities were increased due to enhanced productivity of factories, export/import opportunities, shipping, transportation systems and much more. Thus, in line with previous scholars; flood control, shipping and electricity production were immediate returns also within Geheyan, however Changyang received additional benefits; infrastructure investment and diversified job opportunities.

Relocation process was implemented between 1986 and 1993. Central government defined the relocation strategy, and Changyang's local Migration bureau implemented the actual relocation process. Compensation covered farmland, house and the resettlement fee, and each household received compensation in relation to their property value. 20 percent of relocated people migrated to urban areas whilst the remaining 80 percent was relocated to upper mountainous areas. People relocated to rural areas experienced worsened soil quality and quantity. Since farming on uncultivated land required several years before it could be translated into economic returns, many farmers experienced disorientated socio-economic development. Economic hardship forced many young people to migrate to urban areas to secure their own and family's socio-economic development.

In urban areas, relocated people experienced difficulties in finding jobs due to insufficient knowledge in urban occupations. Change of hukou classification from rural to urban, neglected these relocated people government subsidies on rice and other products - affecting their ppp. In both cases, people relocated to rural and urban areas experienced decreased socio-economic income and the vast majority had to change their occupation from farming to temporary jobs.

Majority of people in Changyang perceived Geheyuan as positive, however it is important to note that government propaganda was prevalent. Whilst young people perceived relocation as an opportunity to change their lifestyle and occupation, older segments in rural areas formed strongest opposition. In the aftermath of relocation, sentiments towards Geheyuan and the central government became negative due to increased price rates of commodities. Compensation remained the same, and thus was considered as “not enough”. People’s ppp decreased dramatically both among relocated people and non-relocated people, however relocated people’s situation was considered as more vulnerable and fragile.

There seems to have occurred two different types of rural to urban migration flows, both containing relocated people. First migration flow was a direct cause of Geheyuan, consisting of people relocated from rural to urban areas. Second, wave was triggered by worsened socio-economic development after being relocated to upper mountainous (rural) areas, and could thus be considered as an *indirect* cause of Geheyuan. The latter group searched for opportunities to work, indicating they were labor migrants. However it is important to acknowledge that there were crucial differences between these two groups; 1) relocated people were a part of government planned relocation and was thus entitled housing from the government, whilst labor migrants were not 2) relocated peoples’ hukou changed whilst labor migrants remained within their rural hukou and 3) relocated people belonged to all age groups, whilst labor migrants were mainly young people. In line with previous research, relocated people experienced major difficulties in restoring their livelihood and production systems. People relocated to rural areas had decreased quality and quantity of soil, erupting resource scarcity - whilst people relocated to urban areas experienced a different kind of scarcity: scarcity of subsidies and employment opportunities.

There was a general consensus that HI was prevalent between relocated people and non-relocated people. However, participants never highlighted the occurrence of HI between people relocated to urban and rural areas, indicating that it was not prevalent. Both relocated and non-relocated people experienced disorientation and economical stress due to rapidly increased commodity prices, however since relocated people were still dependent upon compensation given by the government, it could be argued that HI existed between these two groups.

Decreased value of compensation affected relocated people's perception regarding the central government and the relocation process. Participants argued that government policy was inefficient, and were *still* complaining about the compensation in my interviews. Another interesting finding was that people's sentiments towards Geheyan itself were not negatively influenced (neither among local nor relocated people). In order to understand why the perception on Geheyan remained positive next chapter will highlight the developments in Changyang today.

## 5. Aftermath of Geheyan and tourism

This chapter constitutes this research's unique contribution to literature, explaining the long-term effects of Geheyan on Changyang. Previous chapters emphasized the immediate effects of Geheyan on Lungzhouping and its surrounding areas in order to provide a deeper understanding of the preconditions that existed for long-term effects. Majority of participants (42 out of 54) argued that their socio-economic development had improved extensively, and this chapter will outline their arguments for this development. Thus, research question in this chapter is defined as *what were the long-term affects of Geheyan on Changyang's socio-economic development?*

### 5.1. Diversification of work opportunities

Since 1980's, according Tan and Yao (2006), central government has formulated resettlement objectives around following slogan; "moving out, being stable, and becoming wealthy gradually" (Tan & Yao 2006:352). This slogan highlights the Chinese government's emphasis on gradual development of living standards. The question is whether and how this gradual development was experienced among relocated people in the case of Geheyan? Previous chapter highlighted how HI occurred between non-relocated and relocated people, and difficulties the later group faced in restoring its socio-economic development.

According to vast majority of participants, mainly young people migrated after relocation, whilst older people were less interested in migrating and remained in rural areas (Interview 53 et. al.). Mrs. Yifan highlighted the implications created by rural to urban migration on local food production, arguing that rice farming had stopped due to limited labor force (Mrs Yifan personal communication 2012.02.02). During a fieldstrip to rural areas, Victor reminisced how boat transportation between villages in rural areas looked like during early 1990's; boats were bigger more, crowded and departing more frequently. Today, he argued, decreased demand on boat transportation had resulted in use of smaller boats departing less frequently. For



instance, during our field visit last boat from rural areas to Lungzhouping departed at 3.00 pm. Reduced boat transportation and farming indicate that two major rural employment sectors has decreased.

### 5.1.1. Rural areas: Development of fishing

What constitute main economic activities in rural areas today then? According to several participants farming continue to be main activity, and fishing. According to Ms. Wang and other participants, fishing emerged after Geheyan. Before Geheyan, the water level Qingjiang was low and contained mainly small fishes and crabs underneath the rocks (Ms. Wang et. al. personal communication 2012.01.30). Mr. Zhang explained that people fed these small fishes to prevent them from distinguishing, arguing that their existence was “unnatural”. However when water level increased, fishes could naturally develop, nourishing themselves through other living species in Qingjiang (Mr. Zhang personal communication 2012.01.30). The local government invested and advocated development of fishing, convincing particularly farmers and rural residents to shift entirely or supplement their economical income through this activity (see image 8). The images below portray a common fishing boat and a local fisherman holding his capture – a fish named Qingjiang fish (also called Duck fish). Qingjiang fish is perceived as a valuable commodity, due to its “delicious taste and quality” making it the most important fish.



Image 8. Local fishing boat and a fisherman holding Qingjiang fish. (Photo: Zeynep Erdal).

As mentioned before Gaobazhou dam prevent downstream areas of Geheyan to ship their products to Yangtze, whilst Geheyan blocks the waterway between rural areas (located in upstream Qingjiang) and Lungzhouping – blocking access to major markets. This leads us to the next question; which transportation facilities are used when exporting goods? The fishermen I met brought their capture to land by boat, the capture was later on transferred to motorcycles that were delivering it to its final destination; local restaurants. This indicates that different types of vehicles carry out transportation of commodities from rural areas to Lungzhouping and other cities.

Which role does fishing have in local economy? According to several participants, economic pressures rural participants experienced, because of decreased farmland and increased commodity costs, were lightened through development of fishing. Thus, main group that engages in fishing constitute of rural resident. Another possible explanation for this is that rural people are already settled along Qingjiang, and since increased water level decreased distance between lower and upper parts of mountains also distance to riverbed became smaller – enabling more people to reach the water. Fishing is a small-scale business in Changyang, playing a central role in local economy, particularly in rural areas. The director of CMB stated that people who were relocated to upper mountainous areas and continued with solely farming as occupation had decreased socio-economic development, in comparison to those relocated to urban areas or supplemented their occupation (farming) with temporary jobs. This development is applicable for non-relocated people as well (Director of CMB personal communication 2012.02.10). Thus, rural residents that diversified their occupations or moved away from farming entirely have experienced better socio-economic development, in comparison to those residents continuing with farming.

### **5.1.2. Lungzhouping; Urbanization**

Previous chapter mentioned that a second wave of labor migration occurred after relocation. Which economical sectors did these people come to occupy? According to several participants, most labor migrants resettled permanently in Lungzhouping, changing their occupation to small-scale business and/or worked with temporary jobs. Mr. Yu is former farmer that migrated over a decade ago to Lungzhouping currently work as a street vendor selling tofu in downtown area. Mr. Yu argued that lack of

farmland in Lungzhouping and skills for urban occupations, forced him to engage in small-scale business (Mr. Yu personal communication 2012.02.05).

Participants frequently highlighted, that Lungzhouping had experienced rapid urbanization during the last decade, changing its appearance to become almost unrecognizable. An elderly, local shop owner stated that urbanization had diminished farmland, consequently decreasing the variety of vegetables produced locally that are nowadays imported from rural areas and other regions in China. Land used for farming was nowadays replaced with tall buildings, new roads and other commercial activities (Interview 10 2012.02.01). When discussing the impact of urbanization on vegetable production with some local shop owners, I was told that vegetables imports has resulted in 1) price increase, 2) increased variety, 3) increased gene-manipulated products. Mrs. Liang and several other participants argued urbanization had resulted in increased quantity of products, at the expense of quality (Mrs. Liang et. al. personal communication 2012.02.01). A former farmer that migrated to Lungzhouping argued;

Before I had my own house and produced my own vegetables, meat etc. and I had to buy these when I moved to the town (Interview 21 2012.02.04)

This statement highlight how demand for vegetables has increased due to decreased local farming/supply. As any other commodity, food production and import is based on supply-demand logic; demand is necessary for initiative to supply enabling economic profit. This development within local food chain, clearly indicate that Lungzhouping shifted from agricultural to urban society. Meat and vegetable consumption was limited because people could not afford the prices, however with increased economic income people was enabled purchasing these commodities (Mrs. Liang et. al. personal communication 2012), which indicates, increased ppp. Majority of participants highlighted that development of local tourism had presented migrants and relocated people in Lungzhouping (and to some extent its rural areas), with diversified and increased amount of job opportunities. Thus, upcoming sections will highlight this development.

## 5.2. Increased financial power

According to majority of participants (41/54), main reason for Changyang's socio-economic growth and urbanization was enabled through development of tourism. Director of CTB and several other local participants, argued that Changyang had historical and cultural heritage, presenting a valuable however limited asset for successful development of tourism. Geheyan's realization became a turning point for local tourism; 1) increased water level changed the scenery of Qingjiang river, making it more beautiful, 2) infrastructure development enabled easier transportation for tourists to reach Changyang, 3) and investment of central government elevated its reputation (Director of CMB and local participants, personal communication 2012).

Local tourism sector has expanded rapidly since 2007. In 2010 Changyang's Peoples Congress (PC) issued an official policy document named Tourism Regulation (TR). Purpose of TR is to supervise and regulate tourism activities, simultaneously ensuring sustainable development (TR 2010). Article 4 in this document states that:

The development of tourism should be considered as a part of the local economic and social development plan as a whole by the autonomous county people's government (TR 2010:7.8).

This article clearly states the incorporation of tourism in local socio-economic development. When visiting CTB, I noticed a huge billboard containing information and images related to local tourism. One of the images displayed local government officials receiving an award from Hubei Tourism Administration called "The outstanding Tourism County of Hubei".

Which role does tourism have in local socio-economic development? According to the billboard tourism and economic revenues earned through it, has steadily increased since 2006. In 2010, the local government expected 2,2 million tourists visiting (133.3% increase in comparison to 2006), expecting economic revenues in the amount of 1,24 billion rmb (an increase of 264,7% in comparison to year 2006). Several participants argued that tax revenues earned through tourism sector has increased local government's financial power, enabling investments in different development projects that enhance tourism and local development within areas such as socio-economic wellbeing, education, culture, transportation and environmental protection.

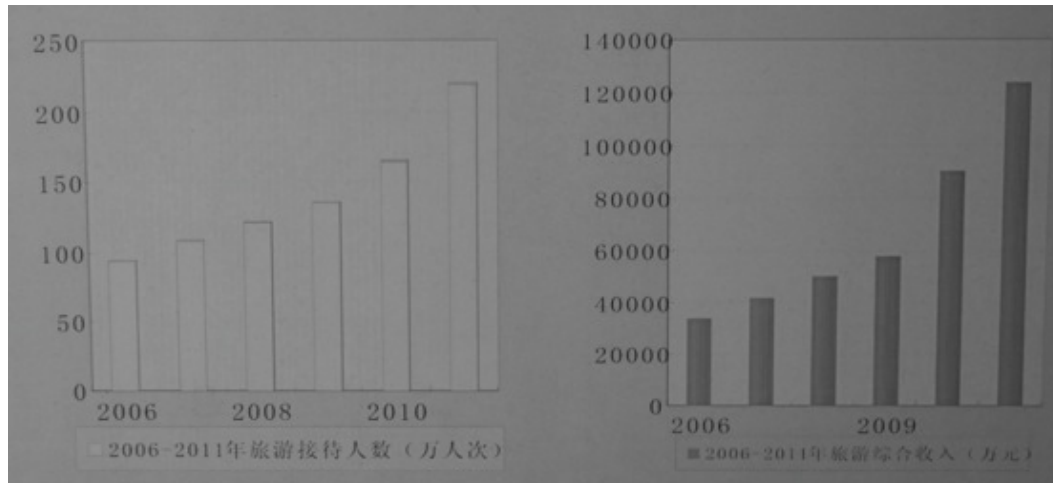


Image 9. A billboard at CTB, portraying amount of tourists and economic revenue made through tourism in Changyang since 2006 (Photo: Zeynep Erdal)

From conclusions, drawn from participants' statements, the local government's economic revenues have been beneficial for Changyang residents. Majority of participants (20 of 54) argued that tourism offer job opportunities for local people since tourists themselves are "consumers". Vast majority of participants highlighted that the local government had promoted tourism, which in turn had promoted development of e.g. hotels, restaurants, souvenir shops, tourism boats and guided tours, creating tremendous amount of job opportunities for local people. Thus, both local government and Changyang residents seem to have their economic share from tourism sector, indicating its success.

### 5.3. Tourism-Tujia nexus

As mentioned before one central responsibility of central government is to enhance and support cultural preservation, but these policies are implemented and managed by local government. A local businessman highlighted how local government's increasing emphasis on Tujia culture;

Together with passing of time, Tujia culture disappears little by little. Today, many young people do not seem to care for culture, but the government thinks its valuable and is trying to protect it. The central government funds this aim (Mr. Feng personal communication 2012.01.29).

In 2006 the local government together with local PC, issued an official policy document named Traditional Folk Culture Protection Regulation (TFCPR) which define and regulate government's approach towards cultural artifacts such as dance, songs, customs, handcraft and beliefs (TFCPR 2006:5-6). TFCPR state that protection of traditional folk culture should be incorporated "into the plan of economic and social development" (TFCPR 2006:6-7). According to several participants, cultural artifact displayed in Changyang's public sphere such as the ancestors square (see image 10), Lin Zhun statue and the old gate were constructed during the last decade. An old shop owner in his 60's, displayed the development of Ancestors square;

At first this area was farmland for growing vegetables, in 1970's factory for sand and stone production was established, later in 1980's it was a free-market and since late 1990's and nowadays a square (Interview 13 2012.02.02).

Thus, Ancestors square seems to have served Lungzhouping differently in different time-periods.



Image 10. Tujia ancestor square containing five poles with white tiger statues on top of each, statue of Lin Zhun (right image). In the background is a wall containing images portraying Tujia history. (Photo: Zeynep Erdal)

The question is whether there exist other reasons, besides central government policy, for emphasizing and promoting Tujia culture in Changyang? According to my participants, the local government started emphasizing preservation of Tujia culture

when tourism started developing. Director of CTB confirmed this development, highlighting the importance of Tujia culture in promoting tourism;

Tourism is closely related with culture, so culture is the soul of tourism. Actually the government is trying to combine tourism with culture to develop both industries (Director of CTB personal communication 2012.02.10).

The director added that Changyang’s current tourism profile is “a journey to visit our Tujia ancestors”, and that a Cultural preservation bureau had been established to preserve and develop traditional-cultural Tujia songs, clothing, dance styles and much more (Director of CTB personal communication 2012.02.10). Tujia culture is not only preserved or highlighted through “cultural artifacts” but also through practicing it. For instance, Tujia-oriented weddings have re-emerged during the last decade (see image 11). A local Tujia cloth tailor stated that demand for traditional clothes had increased by both tourists and Changyang residents (Interview 38 2012.02.05), implying the increasing presence of Tujia culture in Changyang.



Image 11. A local cultural (Tujia-oriented) wedding ceremony in Lungzhouping. (Photo: Zeynep Erdal)

Tujia culture has penetrated the lives of Changyang residents, becoming more visible. However, it is important to understand the existing culture-tourism nexus; Tujia culture developed due to tourism, and development of tourism is promoted by elevation of Tujia culture – making them interdependent. The local government,

supported by the central government, advocated this development and local people benefited from it in several ways 1) economically; tourism (and its associated economic benefits, 2) Tujia identity (enhancement, awareness and preservation), 3) enhanced individual-government relationship. By pushing Tujia culture into peoples everyday life, incorporating it into tourism sector - culture itself became a “commodity” that is accessible for everyone (no matter which ethnical background they belong to). Since Changyang’s Tujia profile was developed during last decennia as part of government policy to promote economic development and urbanization (through tourism), it could be argued that Tujia-Tourism nexus symbolize Changyang’s socio-economic development.

### **5.3.1. Investment in “rural” experience**

Tourism has encouraged development of new tourists sites in rural areas. Several participants that have migrated to Lungzhouping mentioned different tourists sites developing in their hometowns. For instance, one village developed rafting and another village is establishing a “herb-festival” to attract tourists. Through constructing new “view-sites” and/ or events, rural areas attract tourists - enabling diversified income opportunities. Several locals, including the director of CTB, highlighted that there is an increased emphasis on developing and branding “special local food, with rural flavor” (traditional food, cooked through traditional methods), as a part of local tourism (Director of TCB personal communication 2012.02.10). For instance, during my field study I came across a relocated lady who owned a restaurant in downtown Lungzhouping, which specialized in traditional breakfast and rice (cooked in a wooden bowl). There are also “modern” dishes on the menu; such as “Qingjiang fish”. Mr. Song owns one of the most famous restaurants in Changyang and his specialty is “Qingjiang fish hot pot”. Mr. Song argued that food itself attracts tourists, contributing to elevate local reputation (Mr. Song personal communication 2012.02.04). Thus, experiencing local traditional food has become a great attraction for tourists. By developing dishes containing local and rural flavors, food seem to have become an unconventional view site which also promotes employment opportunities for local people in both urban and rural areas. Tourism boost local economy, which in turn enable innovation and emergence of new sectors that attracts tourism. Thus, both become interlinked and mutually beneficial.



### 5.3.2. Tourism relocation and Qingjiang stones

A local shop owner, Mrs. Lishuang, was relocated due to new tourism project named Ancient town also called “Stone village”. The government adopted a similar relocation strategy as in Geheyan dam in terms of compensation for housing and farmland. In difference with dam projects, local government was sole responsible actor for defining and implanting the relocation strategy. Compensation for farmland was approximately 35,000 rmb per km<sup>2</sup> (Mrs. Lishuang personal communication 2012.02.05), which clearly indicates that compensation was adapted to today’s socio-economic standards. Mrs. Lishuang sold her farmland in 2008 and opened a small shop in downtown Lungzhouping with the compensation received. In 2010, the local government started constructing Ancient town that would serve as tourist site, in which precious Qingjiang stones would be sold (Mrs. Lishuang personal communication 2012.02.05). This leads us to next question; how is it possible to find stones after Geheyan and why are they important? According to Mrs. Lishuang;

Before the construction of the dam, there were a lot of stones - and many people came here to find stones along the river. After the dam, we cannot find stones in the river, so people are now searching for them in the mountains. Some of the stones in Ancient town are originally from Qingjiang, but most of them are from the mountains in rural areas (Mrs. Lishuang personal communication 2012.02.05).

Qingjiang stone have a distinct color; mainly beige with natural red patterns. Some of these stone patterns can be polished, revealing different “sceneries”, and is thus considered as art (see image 12).



Image 12. Left: Ancient town which is still under construction. Right: A stone shop in Ancient town selling Qingjiang stones. (Photo: Zeynep Erdal)

Government-led relocation processes are still prevalent in Changyang, but have taken a different shape; it is connected with tourism, rather than infrastructure. Purpose of relocation is however based on same basic idea as in Geheyan; leave room for projects that enhance local socio-economic development. Currently there are approximately forty small stone shops existent in Ancient town. It is important to underline that Qingjiang stones are “local”, in the sense that they are significant and exclusive for Qingjiang river. The old grandmother mentioned before, kept her Qingjiang stones as a memory showing them to me when explaining how the beaches looked like before Geheyan flooded them. This indicates that there is a significant attachment among locals towards Qingjiang stones, reminding them of their lives in Changyang before Geheyan was constructed.

#### **5.4. Tourism and infrastructure investment**

The TR states that infrastructure development should be enhanced for continuing development of local tourism, especially regarding public transportation network. Thus the local government is responsible to

Consider the need of tourism development, gradually improve tourism public transportation service and relevant infrastructure construction; Tourism transportation route, public transportation route and relevant infrastructure such as parking lots should be coordinated (TR 2010:10).

Central part of Lungzhouping witnessed emergence of tall (10-30 floor) buildings serving its residents as housing, hotels or offices. Several participants highlighted that promotion of tourism attracted businessman from different parts of China, which invested in hotels, real estate development and construction work. During my visit construction I noticed road reparations, construction or remodeling of buildings and new squares were under process in different parts of downtown Lungzhouping. Tall buildings are constructed along Qingjiang river, providing its future residents with an incredible view. Currently construction work is mainly focusing on Lungzhouping, and its nearby areas. However, from personal observations in both rural and urban areas, it became evident that government investment priorities are unequal. Whilst the

village where Wuluozhongli mountain<sup>13</sup> is located has experienced emergence of paved roads and newly constructed houses, the village located next to it consists mainly of one-level, small houses made of sand or concrete and with sandy roads. The cooking system was based on traditional methods, processed through open fire. Ms. Li is currently residing in rural areas, and she expressed her discontent to this unequal development through comparing her village to Wuluozhongli mountain (Ms. Li personal communication 2012.01.31). Urbanization in Changyang occurred during the last two decades, implying that it is still in its beginning phase- Consequently this process cannot favor all areas equally, which would explain limited investment in rural areas.

Previous chapter highlighted that infrastructure in rural areas had been damaged because of Geheyan. Being aware of this consequence, the local government has since 2006 distributed 600 rmb (annually) to people that was relocated to rural areas as additional compensation to support them restoring their infrastructure (Director of CMB personal communication 2012.02.10). Ms. Li argues that this compensation is problematic and biased, since devastating effects of Geheyan on rural infrastructure affected whole communities - hence affecting both relocated and non-relocated people. (Ms. Li personal communication 2012.01.31). Since this additional compensation for infrastructure is solely distributed to relocated people, it could be argued that non-relocated people are excluded and cannot benefit from this new compensation schedule. Ms. Li thus expressed that the government should invest in repairing water facilities, roads and electricity in rural areas - instead of giving compensation (Ms. Li personal communication 2012.01.31). This point is highly relevant and needs to be acknowledged, since it highlights limitations with *current* compensation schedules. Geheyan had devastating effects on rural infrastructure, affecting *communities*, rather than solely relocated people. Thus, schedules aimed at restoring infrastructure losses caused by hydropower projects should be implemented at the same level – to utilize maximum efficiency.

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<sup>13</sup> Also known as Ancestors mountain, is one of the most famous touristic sites in Changyang. Tujia people are believed to originate from this area.

## 5.5. Environmental protection; Eco-tourism

Local tourism has become a central component for governmental income, decreasing the importance of tax-revenues from factories and hydropower. Croall (1995) argue that government officials and developers neglect environment, when developing tourism resulting in accelerated deforestation, erosion of soil and destruction of wilderness areas and wildlife (Croall 1995). This is however not applicable for Changyang; according to several local participants and officials, local tourism has received a new profile; eco-tourism. Eco-tourism focuses on sustainable development and protection of local environmental setting, especially the scenery of Qingjiang Huala (/scenery) that constitutes one of the major view sites (Director of CTB personal communication et. al. 2012). Qingjiang literally means “clear river”, thus when promoting tourism, one repeatedly mentioned marketing strategy was a winter swimming competition broadcasted by CCTV<sup>14</sup>. A famous swimmer named Zhang Jian, was hosting the competition, elevating Changyang’s reputation. Why is this important and which symbolism does it have? Nowadays China face major environmental challenges, containing many polluted rivers (Blue Gold Conference notes). Thus, swimming in Qingjiang equals to “healthy and clean” river, making it attractive. Article 22 in TR emphasize environmental protection related to tourism:

No institutions or individuals can carry out behaviors harmful to the environment such as cutting mountains for roads, quarrying, fishing and hunting, pouring solid wastes and polluted water within the tourist attractions or evaluated but not yet developed tourism areas (TR 2010:11-12)

It is obvious that environmental protection is somewhat biased, prioritizing areas of economical/touristic significance. Thus, are remaining, non-touristic areas neglected? Qingjiang river runs throughout Changyang, and touristic sites are developed in both rural and urban areas. There were no statements from participants that indicated that environmental problems were unequally distributed. On the other hand, participants mentioned that environmental protection became more emphasized in relation to tourism. The local “Environmental protection bureau” was established in 1986, when Changyang gained its autonomy, and has in cooperation with PC developed a local

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<sup>14</sup> CCTV, China Central Television, is the predominant state television broadcaster in China.

Environmental Protection Regulation, EPR (Director of CTB personal communication 2012.02.10). EPR was issued by local PC and endorsed by provincial government in 2007 and state that;

Environment in this regulation is a general term referring to natural or artificial factors, such as water, atmosphere, soil, forest, mine, natural and historical relics, wild animals and plants (EPR 2007:5).

Article 8 in EPR entitles all citizens, legal entities and organizations in Changyang to implement the regulations, report and prevent environmental pollution (EPR 2007:7-8). Those that initiate development and construction programs such as irrigation and road are obliged to design water and soil protection plans (EPR 2007:9f.f.). This indicates that local infrastructure projects are supervised and obliged to be aware of environmental issues.

Factories, which developed in relation to Geheyan, exerted negative environmental implications on Qingjiang and its surrounding areas - for instance Mr. Feng stated that mining factories increased water pollution. Since tourism has become a government priority, factories were demanded to take measures against pollution (Mr. Feng personal communication 2012.01.29). Several participants confirmed this development, highlighting that the local government has shut down several factories, re-located some implementing EPR. Mrs. Ping confirmed that amount of factories in Changyang had decreased rapidly during the last couple of years, leaving only a few left (Mrs. Ping personal communication 2012.01.29). One of these factories that continue to exist is a mineral factory for magnesium extraction, presenting an important economical income (Mr. Zhang personal communication 2012.01.30). Mr. Zhang also highlighted which influence Geheyan exerted on local environment;

Increase of water level decreased number of trees and plants, promoting geographical disasters such as slopes, sand and stone falls from mountains (Mr. Zhang personal communication 2012.01.30)

Mr. Zhang argue environmental changes exert negative implications on fishes living area, resulting in extermination of some fish types because of their incapability to adapt (Mr. Zhang personal communication 2012.01.30). Thus, several participants highlighted that local tourism and awareness of environmental implications on fishing, had encouraged local government to implement environmental precautions

(Interview 44 etc. 2012). For instance, specific guidelines and restrictions for commercial fishing emerged in relation to tourism. Since 2007 EPR regulate fishing activities; fishing areas should be defined and approved by the government, fishing outside these areas are prohibited and fishermen needs to be certified (EPR 2007:10-11). A local participant expressed that “there is little space for development of fishing, because it would pollute the river” (Interview 59 2012.02.09). During my field visit in rural areas I observed this development; fishing activities were limited to enclosed areas, mainly located nearby the river bed being and distant from shipping areas.

## **5.6. Education**

### **5.6.1. One child policy and educational quality**

Xiaoping’s modernization objective included implementation of the “one-child policy”, one of the most controversial family planning policies in the world (Fong 2004:72-3). The aim was to allocate and concentrate national and family resources on future generations, through decreasing demand on existing resources (Fong 2004:72-3). The central government invested in rural and urban areas, enforcing nine years of compulsory education (Fan et. al. 2004:400). This investment enabled rural residents to gain education in non-farming sectors, diversifying young peoples working options and increasing their labor quality (Fan et. al. 2004:400).

Increased tax revenues (gained from factories and local income) have enabled local government to invest in education. I visited two prominent educational institutions during my visit; one junior high school and one senior high school. Since 2009, both schools have received tremendous amount of capital for remodeling their educational environment, having new teaching buildings, sport courts, extended teaching material and much more (Interview 4 and 44 2012). The head principal for junior high school argued that educational quality had improved in Changyang, due to increased governmental income (Interview 44 2012.02.07). However, this investment has been unequal between rural and urban areas, resulting in better schools in the later. The head principal added, that parents who strived for providing their children with better education migrated to Lungzhouping (Interview 44 2012.02.07). This phenomenon was confirmed in the field; several migrants mentioned that their choice of moving

was based on their children's education. So why is education important and in which way does it reflect socioeconomic development? The head principal highlighted how Changyang residents' educational expectations have been influenced by their socioeconomic wellbeing;

Before when people were poor, people only wished to continue study, but nowadays people require excellent education. Demand has increased and people put more emphasis on children's education. This change and development is only based on people's physical well-being (Interview 44 2012.02.07).

### **5.6.2. Increased options; vocational training**

The local government has also incorporated education into its TFCPR and TR. TFCPR state that the local government is responsible to "foster the development of traditional folk cultural specialists; send selected talents to further training in higher educational institutions" (TFCPR 2006:13). TR states;

Autonomous County encourages tourism occupational education, promotes in-job continuing training, and strengthens the education and import of tourist specialists, improving the quality of tourism operators (TR 2010:9).

Tourism-related vocational training has been combined with another policy; since 2006 the local government has implemented a recovery program for relocated people from previous to dam projects, offering them vocational training. The director for Migration bureau highlighted this new development;

The spirit comes from the central government, and with provincial instructions, the local government is responsible for implementing it (Director of CMB personal communication 2012.02.10).

Relocated people that are interested in vocational training apply to the local government, who will fund vocational training in Changyang or Yichang (Migration director). Ms. Yifan was relocated due to Geheyan, and chose to study tourism management in vocational school in Changyang since "with the development of tourism finding a job would be easier" (Ms. Yifan personal communication 2012.02.02). Accordingly, her current job is within Changyang's tourism sector. Director of CMB added; "this program is a sustainable help for them (relocated people) to develop" (Director of CMB personal communication 2012.02.10). What

does develop mean in this context? As highlighted in previous chapter; relocated people were forced to change occupation, lacking “skills” required for urban occupations – forcing them to work within low-paid occupations. Thus, vocational training enable relocated people to receive special training in skills that would increase /facilitate their opportunities to work in urban Lungzhoupings. Incorporation of governments on all levels within this new policy surrounding vocational training for relocated people indicates its national character and could be applied to other locations in China. However, the local government took initiatives on its own, combining vocational training with tourism. It could be argued that this creates a win-win situation; relocated people have an opportunity to develop different skills suitable for urban job opportunities, which in turn will contribute to local economy and tourism. Henceforth, it is as an efficient method to incorporate and integrate relocated people into Lungzhoupings economy. The local government also emphasizes current generation’s educational quality, expressed through increased investment in local schools. One of the school directors argued that demands for educational quality had increased vis-à-vis improvement of socioeconomic standards, and since demands have steadily increased during the last decade - it could be argued that Changyang residents feeling of socioeconomic wellbeing has increased proportionally.

## **5.7. Socio-economic development**

Throughout this paper, I have outlined which immediate and long-term effects Geheyang had on Changyang. Whether these developments have been positive or negative cannot be evaluated, unless general public and relocated people express their perception regarding socio-economic development. Table 5 highlights the perception among relocated and non-relocated people, regarding the former groups socio-economic development after relocation was carried out<sup>15</sup>.

As displayed in the table, majority of participants from both groups perceived relocated people’s socio-economic development as better in comparison to pre-relocation period. However, a few people believed that relocated people continue to experience hardships regarding their socio-economic development. An expected

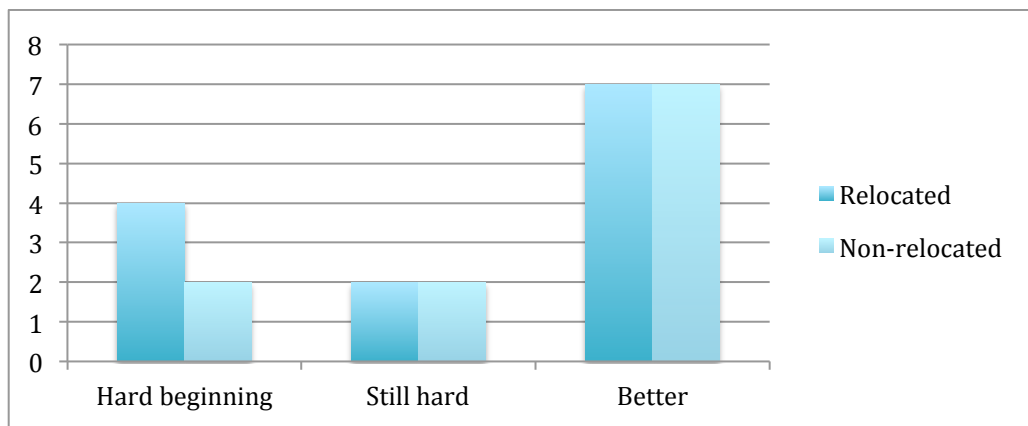
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<sup>15</sup> See appendix 8 for more information



opinion difference occurred, when evaluating the socio-economic impacts of Geheyan immediately after relocation; relocated people argued more frequently that their development had been difficult in the beginning phase, whilst only some non-relocated people acknowledged this hardship.

Table 5. Perception among relocated and non-relocated people, regarding relocated people's socio-economic development after relocation.



A middle aged female migrant expressed that general public's living standards had increased since Geheyan. However, she added that the most disadvantaged group were those relocated to urban areas;

With the rapid increase of goods prices, their lives got worse and worse. Nowadays, some of them are working in temporary jobs, and their lives are not so good e.g. they work with brushing shoes, driving three-wheeled cars. Immigration issue still exists (Interview 46 2012.02.07).

These ladies that were brushing shoes, were mainly located on Qingjiang road (see image 13). As visible in the image, majority of shoe brushers were female. Many participants explained that majority of men from rural areas had migrated to other cities outside Changyang to work in better-paid occupations. However, currently most rural migrants and relocated people in Lungzhouping work as small shop owners. This phenomenon was confirmed in the field; 14 out of 19 my participants that owned small shops in downtown area, were from rural areas. Among my participants, solely one relocated person stated that his own socio-economic development had been tough

and negative. Henceforth most participants (relocated and non-relocated) evaluated their own as positive, being better in comparison to pre-Geheyan.



Image 13. Shoe polishing ladies in Lungz houping. (Photo: Zeynep Erdal)

How was then general public's socio-economical development evaluated? None of my participants perceived the developments in Changyang as negative, vast majority arguing that Geheyan had contributed to local socio-economic development through increasing general public's living standards. Henceforth, in line with this paper's hypothesis; the perception of Geheyan has been positive, due to vague HI created by it and improved socio-economic development it generated.

Many participants highlighted food consumption patterns in Changyang when describing their socio-economic development, emphasizing food availability and access. Before Geheyan, people had limited access and availability of food products, however today have both increased availability (quantity and variety) and access to products (through increased economic income).

When describing the past, all participants expressed that they were "poor", "lived in old flat houses", "wore old-fashioned clothes", "could only eat meat at festivals and special occasions". This last statement is crucial for understanding people's physical well being and food security. Several participants highlighted that their meat and vegetable consumption had been limited due to 1) high prices and 2) inaccessibility (ate only products that were produced locally (Mrs. Liang personal communication 2012.02.01)). A local participant recalled how people ate potato flower, since it was cheap and protein rich. When economic income increased during 1990s, potato flower

consumption decreased – being associated with poverty. Currently, potato flower is re-introduced by external companies, labeling it as a “healthy product”.

Which factors does Changyang residents consider as main reason for increased socio-economic development? A middle-aged local man expressed a reoccurring argument that many participants had highlighted;

... without the construction of the dam (Geheyan) this city would not have been like this today. It has promoted tourism, which attracts a lot of tourists, which in turn promote transportation systems, restaurants and hotels – bringing in a lot of income (Interview 27 2012.02.04)

Thus, there is a general consensus among Changyang residents that Geheyan established those pre-conditions for development of tourism - which in turn increased and diversified job opportunities. Both rural and urban residents were presented with an opportunity to develop socio-economically. My participants also emphasized that the central and local government were main actors behind these developments, making my participants express their appreciation and positive attitude towards these parties.

## **Reflection**

The most significant long-term effect of Geheyan has been expressed in the development of tourism; 1) increased water level changed the scenery of Qingjiang river and made it more beautiful, 2) infrastructure development enabled easier transportation for tourists to reach the County, 3) and investment of the central government elevated Changyang's reputation. Another significant development that enabled tourism to develop quickly was labor migration that occurred from rural to urban areas in the aftermath of the relocation period. Farmland was transformed to commercial use, forcing the vast majority of relocated people to change their occupation and be able to generate an economic income in urban areas. Urban growth and development offered young people an opportunity to change their occupation. Tourism thus decreased prevalent pressures that young unemployed people felt, through increasing demand of labor power.

This chapter highlighted how the local government has incorporated cultural identity, tourism and environmental protection into its current socio-economic objective. Natural sceneries along Qingjiang river and Changyang's Tujia identity have become central and valuable tourist attractions. Whilst Qingjiang river has contributed to eco-tourism, Tujia identity has promoted local identity and the emergence of "cultural artifacts". Eco-tourism forced local factories to implement measures to control pollution and enhance sustainable environmental development. Thus, many factories have been closed down, and the economic losses are compensated by tourism. Changyang has thus switched to a service-oriented sector. Tujia identity was reinforced and pushed into the public sphere through construction of cultural artifacts and promotion of cultural heritage. The tourism sector itself has a Tujia profile, attracts tourists – which in turn generates economical income.

Local tourism sector in Changyang today has boomed, constituting a central source of income for its residents. Another "commodity" that attracts tourists is *local experience*; such as Qingjiang fish, traditional food, herb festival, rafting, Qingjiang stone etc. Henceforth, enterprises affiliated with tourism (such as restaurants, shops, souvenir boutiques and hotels) have increased rapidly, presenting urban and rural residents with tremendous amount of opportunities to work.

Incomes made from particularly tourism has enabled the local government to invest in education, sourcing more capital for reconstruction of teaching buildings, sports facilities, school books and much more. Educational quality for younger and older generations improved because of investments made by the local government. Additional people benefitting from the government's new emphasis on education were people relocated from hydropower projects such Geheyang. Through offering them vocational training that provided them with skills suitable for urban occupations, their socio-economic development was enhanced. Thus, vocational education decreased some of the pressures that were prevalent among relocated people, in terms of readapting to an urban working environment. A vast majority of participants stated that Geheyang contributed to local tourism, which enhanced increasing living standards in Changyang (through job opportunities). Both relocated and non-relocated residents underlined that they had been poor, making meat a luxury dish that was solely consumed during special holidays. Nowadays on the other hand, Changyang residents expressed that they have the "luxury" to consume meat everyday.

Tourism also promoted the continuing implementation of infrastructure projects within transportation and new view sites, which require relocation of people. For instance several people were relocated because of the construction of Ancient town. Relocation is henceforth still carried out, however the compensation distributed to relocated people was much higher. For instance, my participant was enabled to invest in a small shop located downtown. This participant was positive towards the relocation and to tourism in general, which indicates government's success in distributing *adequate* compensation that secure (new) relocated peoples socio-economic development. Urbanization and tourism diversified and increased opportunities to that were suitable for both relocated and non-relocated people, resulting in decreased HI between relocated and non-relocated people.

Rural resident also benefit from tourism; Wu Long Zhou Li mountain has received tremendous amount of governmental investment to improve its infrastructure. However, non-touristic rural areas have received limited attention in terms of governmental investment. Thus, HI reappears in Changyang through unequal infrastructure investment between rural areas that attract tourism and those that do not. Also another unequal investment has been in the restoration of infrastructure in rural areas; since 2006 people relocated to rural areas have received compensation to restore the infrastructure facilities that were destroyed due to Geheyan, which leaves non-relocated people in rural areas (that also experienced same damage) without compensation.

All participants argued that Changyang's socio-economic development had improved since Geheyan, speeding urbanization and improving living conditions. However, some participants argued that relocated people had least share of this development, since some face economical hardships because of difficulties in restoring their production system. However it is important to acknowledge that seven out of nine participants that were relocated argued that their socio-economic development had improved in comparison to the pre-relocation period. This indicates that the amount of relocated people experiencing *decreased* socio-economic development was small. Majority of relocated and non-relocated people argued that they experienced improved living standards and wellbeing. The vast majority of Changyang residents' perception (including both relocated and non-relocated) towards the central and local government was very positive, arguing that both parties implemented Geheyan and

promoted development of tourism. The main reason for this positive perception is that Geheyan is perceived to have established those pre-conditions necessary for development of tourism, which in turn created and diversified job opportunities for both rural and urban residents - presenting an opportunity for socio-economic development. Henceforth, from a long-term perspective Geheyan indirectly enhanced Changyang residents' socio-economic development, through enabling development of tourism. Since the central and local government initiated Geheyan, participants expressed positive feelings towards these parties. However, it is important to acknowledge that Changyang residents mentioned more frequently the local government's role, almost praising its development policies and success after Geheyan, whilst the central government was praised for creating the preconditions for that enabled development.

## **6. Geheyan; socio-economic (under-)development?**

The findings from Changyang and participants statements highlighted several factors of importance, providing a comprehensive understanding of developments that occurred in this region after Geheyan was constructed. Before Geheyan, severe floods occurred periodically, threatening the physical safety and productions systems particularly of those residing by the riverbed. One major benefit of Geheyan was henceforth it securement of floods, creating a secure environment for people livelihood. Another major benefit surrounded infrastructure investment; the central government invested in the construction of roads, bridges, telecommunication and electricity as a byproduct in order to enable construction of Geheyan. This investment facilitated transportation on land, connecting Changyang with its surrounding areas. When completed, Geheyan increased the water level around the reservoir area by 100 meters, flooding existing houses, farmland and infrastructures such as water and transportation systems. Henceforth, 50,000 people were relocated to either the upper mountainous or urban areas.

Those relocated to rural areas experienced decreased quality and quantity of soil, which challenged and respectively limited farming. Relocated people in urban areas experienced a different kind of scarcity: scarcity of subsidies and job opportunities, limiting their economical income. Henceforth, lined with previous research, relocated people experienced major difficulties in restoring their livelihood and production systems after relocation.

The strongest opponent of the relocation process consisted of the older generations, who wanted to preserve their social networks and homes. However, government propaganda was prevalent and central government officials were sent to these opponents to convince them of relocating for the sake of “national reconstruction and development”. Prospective relocated people could not prevent Geheyan from being realized, indicating that neither relocation could be prevented. Thus, it could be argued that the central government forced people to relocate as much as they persuaded them. The strongest group in favor of the relocation was the younger

generation, since they considered it as an opportunity to change occupations and establish a new life in urban areas.

From my interviews, there was a general consensus that HI was prevalent between relocated people and non-relocated people, whilst HI between people relocated to urban and rural areas were non-existent. Both relocated and non-relocated people experienced disorientation and economic stress due to the rapid increase of commodity prices. At this time relocated people have still not restored their production systems, continuing to be dependent upon compensation given by the government as their source of income, magnifying emergence of HI.

Both relocated and non-relocated people criticized the compensation and government policies surrounding this issue, arguing it was not enough. Consequently, in the immediate aftermath of Geheyan, compensation failed to secure relocated peoples' socio-economic development because its limited adaption increased commodity prices. Thus, compensation was mainly considered as "not enough", because of contextual economic trends.

The existence of HI between relocated and non-relocated citizens created grievance among relocated people towards the central government, blaming it for not providing enough compensation that would ensure people's socio-economic development. When evaluating socio-economic development immediately after relocation, people *mainly* compared their situation with their previous socio-economic development, rather than comparing to non-relocated people. In line with this research's theoretical framework, participant's evaluation of their socio-economic development was carried out vis-à-vis their previous development. Grievance was prevalent among relocated people, targeting the central government - indicating that non-relocated people were not the perpetrators for this development.

However, from my interviews, negative sentiments towards Geheyan among non-relocated and relocated people were nonexistent. One explanation could be that Geheyan stabilized industrialization by providing the electricity necessary for functioning. There were two different kinds of migration flows, direct and indirect causes related to the Geheyan dam; relocation to urban areas and respective migration to urban areas occurred after being relocated to less fertile lands. The latter group searched for working opportunities, indicating they were labor migrants. However



both migrant groups faced difficulties in finding new jobs due to their lack of skills for urban occupations – creating huge economic stress. Industrialization diversified and increased work opportunities, enabling rural migrants and relocated people to restore their economic development. Henceforth, Geheyan created some kind of push-pull factor; the younger generation aimed to change their occupation and industrialization became their opportunity. Industrialization in combination with rural-urban migration fastened the urbanization process, changing Lungzhoupings appearance to become almost unrecognizable. It could be argued that the lack of negative sentiments and grievance towards Geheyan could indicate that the project itself was perceived positively. It is important to underline that central government and Geheyan were held responsible for these developments, and since these sentiments were positive – it could also be argued that grievance solely occurred in relation to compensation, indicating it was a small however significant *aspect* of general evaluation.

Autonomy together with the development of tourism also enhanced the cultural and ethnic identity of Tujia people in Changyang. Central government investments aimed at preserving cultural identity, made Changyang residents more aware of their cultural heritage. As predicted in this research's theoretical framework, participants did not evaluate their socio-economic development based on ethnicity – since Geheyan divided people into relocated and non-relocated. Thus, the absence of ethnically oriented arguments among participants when evaluating their socio-economic development indicates that ethnic identification did not determine participants' level of development in the aftermath of Geheyan.

From my interviews, there was a general consensus that Geheyan contributed to the development of tourism by changing the scenery of Qingjiang River and enabling infrastructure development. First and second rural-urban migration flows constituted a stable base of labor power for developing local tourism. Thus, with the development of tourism, affiliated sectors such as restaurants, hotels, tourism bureaus and transportation services emerged, presenting a tremendous amount of opportunities for work. Tourism became a central component of the local government's income, and since major touristic attractions are based on natural view sites, a stronger initiative towards protecting these sites through eco-tourism was advocated. Several factories that challenged sustainable development, for instance by polluting Qingjiang, were

closed down. Through increased tax-income the local government was enabled to invest in its educational infrastructure, offering younger and older, relocated and non-relocated residents opportunities to enhance their educational quality. It could be argued that investment in education is a strong tool in decreasing HI and to improve people's living standards, since it enabled people to diversify their job opportunities within different sectors.

Tourism has however created regional disparity; rural areas containing tourist sites has received substantial investment in infrastructure in comparison to other rural areas, indicating that a new type of HI is emerging caused by investment priorities in tourism. A rural participant complained that her village had remained underdeveloped, comparing it with "touristic" areas. Grievance in this context was triggered by comparison with others; however this grievance was directed towards the local government – indicating that the local government occupies a central role within investments related to local tourism.

As mentioned earlier, increased water level caused by Geheyan, damaged existing infrastructures in rural areas. Since 2006, people relocated to rural areas have received compensation for restoring the infrastructure system that was damaged in Geheyan, whilst non-relocated people were denied this compensation - although they had been affected as much as their relocated counterparts. This finding is very valuable, highlighting limitations with current government policies; infrastructure systems are connected to communities, indicating its implementation should be on the same level.

Majority of participants from both groups evaluated relocated people's socio-economic development as better in comparison to the pre-relocation period. However, a few people argued that some relocated people continued to have problems in restoring their economical income, being forced to work in temporary low paying jobs. When evaluating the immediate effects of Geheyan, relocated people argued frequently that their development had been difficult in the immediate aftermath of relocation. Many non-relocated people also acknowledged these hardships relocated people experienced, indicating communication between these groups were frequent.

Local government officials argued that Geheyan had enhanced people's living conditions and socio-economic development, especially for those that migrated or were relocated to urban areas. Major argumentation here was that urban occupations

provided better and stable working environments with higher salaries, in comparison to farming which is physically exhausting and dependent upon natural conditions (such as soil quality and weather). The director of CMB likewise added that people who remained in rural areas, continuing with farming constituted the poorest segment in Changyang. The government officials never drew a comparison between relocated and non-relocated people when evaluating the socio-economic impacts of Geheyan. This could indicate two things; either local officials avoided this comparison on purpose, to avoid highlighting negative implications of Geheyan – or there were no significant differences between these groups (which would mean nonexistence of HI). From my interviews, I would conclude that it is a combination of both. Relocated people did face difficulties immediately after relocation. However in terms of income through urbanization and industrialization they were presented with equal opportunities to develop as non-relocated people. It is important to remember that urbanization affected non-relocated and relocated people equally – since Changyang was an agricultural society by the time Geheyan was implemented. Henceforth vast majority of Changyang residents were “rural” by the time Geheyan was constructed. This could explain why only one relocated participant expressed that he had experienced decreased socio-economic development. Similarly, this participant also evaluated his socio-economic by comparing it to pre-relocation period. It is apparent that group identities (whether people were ‘relocated’ or ‘non-relocated’) had little significance when evaluating of socio-economic development, indicating that HI was limited.

On a societal level, there was a general consensus among participants and officials, that living standards in Changyang had improved after Geheyan was completed, however even more drastically in relation to tourism. Thus, Geheyan and local tourism are ascribed as main factors behind improved living standards among Changyang residents today. Whilst Geheyan was a central government project - the local government mainly developed tourism, highlighting both parties significant contribution in Changyang’s socio-economic development.

There existed a general (positive) perception that Geheyan had established those pre-conditions necessary to develop tourism, which in turn created and increased diverse working opportunities for both rural and urban residents, presenting an opportunity for socio-economic development. In line with this papers hypothesis the perception of

Geheyang as positive, would indicate whether the central and local government succeeded in coping with difficulties arising from hydropower projects such as relocation and unemployment.

This paper argued that local and central government efficiency would be evaluated by looking at *infrastructure development, increased economic productivity, enhanced education, cultural protection and tourism*. As already highlighted, all these aspects have been promoted and improved drastically in post-Geheyang era, benefiting all residents in Changyang – which indicates the success of implementing these government policies. Henceforth it could be argued that Changyang is a successful case in highlighting the efficiency of local and central government in terms of applying theory into practice.

There were two projects that created HI between relocated and non-relocated people, both related to compensation; whilst the former received inadequate, “not enough” compensation immediately following relocation, the later was denied compensation for lost infrastructure. Henceforth, in both these contexts participants expressed grievances, confirming the existence of a correlation between HI and grievance. However, from my interviews, HI between relocated and non-relocated seems insignificant – or at least very limited. From a general development perspective, the central government is perceived as efficient in establishing those pre-conditions that boosted local economy, whilst the local government was portrayed as being efficient in utilizing these pre-conditions through developing tourism – enabling further economic development.

Changyang residents expressed their gratitude to the central government for their implementation of infrastructure development (including Geheyang), and to the local government for managing this investment to boost local economy and people’s socio-economic development. Thus, people of Changyang (both relocated and non-relocated) saw both the central and local governments in a positive light.

### **Concluding remarks**

From a long-term perspective, local development in Changyang is perceived as an exceptionally positive assessment of the long-term impact of hydraulic projects on

local socio-economic development. In 1980's Lungzhouping was an agricultural society (primary sector), during 1990's, after Geheyan) industrialization (secondary sector) presented major source of income, and since 2007 tourism has enhanced service-oriented jobs (tertiary sector) has dominated local economy. Thus, within 30 years Changyang has moved from primary sector to tertiary sector, indicating its fast development phase.

The existence of HI between relocated and non-relocated people were prevalent immediately after relocation, however governmental tourism policies provided opportunities that have reduced this negative effect. Geheyan created those pre-conditions that transformed Changyang from an agricultural to an urban society. From a short-term perspective, Geheyan decreased relocated people's livelihood and socio-economic development, whilst from a long-term perspective it improved the living conditions in both rural and urban areas, among relocated and non-relocated people alike. Thus, it could be argued that Geheyan enhanced general publics' "*ability to produce an adequate and growing supply of goods and services productively and efficiently, to accumulate capital, and to distribute the fruits of production in a relatively equitable manner (Jaffee 1998:3).*

Geheyan enabled and secured Changyang's socio-economic development path, rather than creating underdevelopment. It is however important to underline that there were several conditions that were specific for Changyang (such as its beautiful natural scenery and its Tujia heritage) which cannot be applied to other areas. Another aspect that determined the success of Geheyan was efficient government investment in diversifying the employment sector, which was limited in other previous dam projects due to corruption and limited capital. Thus, this case study should be treated as an exceptionally successful story of hydropower projects' impact on local socio-economic development, rather than a story applicable to all cases. It is also important to underline that relocated people faced difficulties immediately after relocation due to the loss of social networks, economic production systems, houses, and environment. Mrs. Liang's initiative to collect Qingjiang stones from the riverbed before Geheyan was completed, and her attachment to these stones, could symbolize an attempt to preserve something that reminded her of her old life – before it was replaced and changed. Although this "new development" was perceived as something positive, Changyang residents' glorified their natural environment and "old life"

through their stories about its beaches, its rocks, crabs, original natural scenery, and much more. Geheyan did generate socio-economic development and brought people out of poverty, but it did so at the expense of destroying aspects of vital importance for social life among Changyang residents. In the case of Changyang, the success of Geheyan is evaluated in reference to its socio-economic returns for local people. Although Geheyan did have some negative impact it also established pre-conditions that were necessary for generating socio-economic development and prosperity.

### **Recommendation for future research**

This research acknowledges that relocation processes present a difficult challenge for relocated people in enabling stable socio-economic development. However, by evaluating the impact of hydropower projects in a long-term perspective and by including non-relocated people into the research, I believe that this research can provide a more comprehensive picture for the literature. Thus, there should be more studies conducted on hydropower projects' impact on socio-economic development of both relocated and non-relocated people, from a long-term perspective. It would also be interesting and valuable to include areas in Changyang that have experienced decreased water level to gain a better understanding of Geheyan's socio-economic impact in this region. Another interesting research would be to further investigate the correlation between development of tourism and Tujia identity, bring more comprehensive knowledge about this issue.

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# Appendix

- Transcribed interviews, interview questions, tables, overview of participants and additional information about the field study.

## Appendix 1. Global dam statistics

*States with highest amount of water dams, divided per continent<sup>16</sup>*

|                                     | Amount of dams |
|-------------------------------------|----------------|
| <b><i>Africa</i></b>                |                |
| South Africa                        | 539            |
| Zimbabwe                            | 213            |
| <b><i>Europe</i></b>                |                |
| Spain                               | 1,196          |
| France                              | 569            |
| <b><i>South America</i></b>         |                |
| Brazil                              | 594            |
| Argentina                           | 101            |
| <b><i>North/Central America</i></b> |                |
| United States                       | 6,575          |
| Canada                              | 793            |
| <b><i>Asia and Oceania</i></b>      |                |
| China                               | 22,000         |
| India                               | 4,291          |
| Japan                               | 2,675          |

Source: Pacific Institute (2002-3)

(Retrieved from <http://www.worldwater.org/data.html>)

<sup>16</sup> There are approximately 47,655 water dams in the world

## Appendix 2. Autonomous Tujia Areas in China

| Name of Ethnic Autonomous Area <sup>17</sup> | Time of Founding    | Capital                  | Area (km <sup>2</sup> ) | Population (1,000) | Proportion of Ethnic Minority Population in the Total (%) |
|----------------------------------------------|---------------------|--------------------------|-------------------------|--------------------|-----------------------------------------------------------|
| <b>Hubei Province</b>                        |                     |                          |                         |                    |                                                           |
| <i>Autonomous Prefectures<sup>18</sup></i>   |                     |                          |                         |                    |                                                           |
| Enshi Tujia-Miao Autonomous Prefecture       | Dec. 1, 1983        | Enshi City               | 23,942                  | 3,817.9            | 52.80                                                     |
| <i>Autonomous Counties<sup>19</sup></i>      |                     |                          |                         |                    |                                                           |
| <b>Changyang Tujia Autonomous County</b>     | <b>Dec. 8, 1984</b> | <b>Longzhouping Town</b> | <b>3,430</b>            | <b>409.7</b>       | <b>50.65</b>                                              |
| Wufeng Tujia Autonomous County               | Dec. 12, 1984       | Wufeng Town              | 2,072                   | 205.9              | 84.88                                                     |

Source: Permanent mission of the PRC to the UN (2003).

(<http://www.china-un.ch/eng/rqrd/jzzdh/t187368.htm>)

<sup>17</sup> There are in total 155 Ethnic Autonomous areas in China.

<sup>18</sup> There are in total 30 Ethnic Autonomous prefectures in China

<sup>19</sup> There are in total 120 Ethnic Autonomus Counties in China

### Appendix 3. Transcribed interview samples

| INTERVIEW 7. Farmer in rural areas |                                                                                                         |
|------------------------------------|---------------------------------------------------------------------------------------------------------|
| Q                                  | How old are you and what's your occupation?                                                             |
| A                                  | I am 43 years old this year, and I am a farmer.                                                         |
| Q                                  | What do you farm usually?                                                                               |
| A                                  | Tangerines, corns, tea and ziguo.                                                                       |
| Q                                  | What is ziguo?                                                                                          |
| A                                  | It's on the trees and can be used to refine (gives color to drinks and food e.g. cakes).                |
| Q                                  | How long have you lived in this village?                                                                |
| A                                  | Since I was born. With the construction of the dam our farmlands were flooded, but not our houses.      |
| Q                                  | How many lands were flooded?                                                                            |
| A                                  | 2-3 square kilometers of my family's.                                                                   |
| Q                                  | Is it because of the construction of the dam?                                                           |
| A                                  | Yes. Our farming fields were flooded when the water level increased, after the construction of the dam. |
| Q                                  | What did you plant in the farmlands?                                                                    |
| A                                  | Tangerines.                                                                                             |
| Q                                  | Where do you plant tangerines now?                                                                      |
| A                                  | We explored the fields behind our houses.                                                               |
| Q                                  | How are the tangerines in compared to before, are they better or worse in quality and production?       |
| A                                  | They are worse because the quality of land and soil is not so good compared with before.                |
| Q                                  | What is because the land it was closer to the river?                                                    |
| A                                  | Yes.                                                                                                    |
| Q                                  | Did the government give you any compensation because of your loss of land?                              |
| A                                  | No money at all.                                                                                        |

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|   |                                                                                                                                                                    |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Q | Did you get any other extra allowance / compensation?                                                                                                              |
| A | No.                                                                                                                                                                |
| Q | Did other people that lost their lands get a compensation form the government?                                                                                     |
| A | Only the migrants got compensation.                                                                                                                                |
| Q | Were there many migrants in your area because of the construction of the dam?                                                                                      |
| A | Ten families in my group had to move and now their former houses are under water.                                                                                  |
| Q | Where did they move?                                                                                                                                               |
| A | Some moved to the upper areas of the mountains, some moved to the nearby areas. Only one family moved to another village.                                          |
| Q | Do you think you benefited from the dam?                                                                                                                           |
| A | No benefits at all! We have to pay for repairing roads, electricity, water ourselves.                                                                              |
| Q | Was it possible to get electricity before the construction of the dam?                                                                                             |
| A | Yes. We had electricity but we had to pay for repairing the electricity facility by ourselves.                                                                     |
| Q | Did the government offer housing to those who lost their houses because of the dam?                                                                                |
| A | The government gave them money as compensation and they built new houses themselves.                                                                               |
| Q | Was the compensation enough`?                                                                                                                                      |
| A | It is according to the size of the houses and their quality (e.g. some are made of bricks, others of sands etc).                                                   |
| Q | When is the farming season and how many years have you been farming?                                                                                               |
| A | From march to July and August.<br><br>Since I married here at age of 20 and I have been farming for 23 years.                                                      |
| Q | When you moved here at the age of 20, was the dam constructed?                                                                                                     |
| A | At that time, under construction                                                                                                                                   |
| Q | So have you witnessed the change in your area before and after the construction of the dam?                                                                        |
| A | Migrants were building new houses and we repaired the road but still it's difficult for us to get clean water. Now we get water through pumps. Water supply is not |

|   |                                                                                                                                                                                                     |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | convenient.                                                                                                                                                                                         |
| Q | Did the dam promote the village's economy?                                                                                                                                                          |
| A | No promotion! Those years our production of our tangerines decreased a lot. The conditions were even worse!                                                                                         |
| Q | So did the products decrease and were prices lower?                                                                                                                                                 |
| A | Both. At that time tangerines were sold 0.25 rmb per 500 grams. But transportation became more convenient                                                                                           |
| Q | Was this because of decreased soil quantity or decreased quality?                                                                                                                                   |
| A | Mainly because the quality of the soils were worse.                                                                                                                                                 |
| Q | So did the dam contribute to the construction of the new roads?                                                                                                                                     |
| A | We paid for repairing the roads ourselves.                                                                                                                                                          |
| Q | Why do you think the roads are important for you?                                                                                                                                                   |
| A | It is more convenient for us to carry tangerines to outside regions and we did no longer had to carry them on our shoulders.                                                                        |
| Q | Where is the market for these products located?                                                                                                                                                     |
| A | Some businessmen in other cities order the tangerines, and then carry them to their areas.                                                                                                          |
| Q | Is it by truck?                                                                                                                                                                                     |
| A | Yes, by trucks.                                                                                                                                                                                     |
| Q | Is tourism in your area prevalent?                                                                                                                                                                  |
| A | We have no view sights on our village. Wu Long Zhou Li mountain belongs to another village.                                                                                                         |
| Q | Any positive effects on this area?                                                                                                                                                                  |
| A | No, not many positive effects.                                                                                                                                                                      |
| Q | Any other comments regarding the dam?                                                                                                                                                               |
| A | Yes, the tangerines were flooded and we lost our tangerines – but we did not get any compensation. So I felt a little bit that I was treated unfair. The migrants got compensation, but we did not. |
| Q | Would you feel better if you got compensation?                                                                                                                                                      |
| A | Better of course. The government gave the migrants 600 per year but nothing was offered to us. The government should help us, resolve the water supply and put                                      |



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|   |                                                                                                                                |
|---|--------------------------------------------------------------------------------------------------------------------------------|
|   | some concrete on the roads.                                                                                                    |
| Q | What kind of water supply?                                                                                                     |
| A | Now we use the pump to get water from the river to our pool. But we want tap water.                                            |
| Q | So you do not have any tap water in the house now?                                                                             |
| A | Before we had tap water, but it was flooded.                                                                                   |
| Q | Was the tap water available for every family before?                                                                           |
| A | In lower areas almost every family had.                                                                                        |
| Q | Are there any new (water)pipelines?                                                                                            |
| A | It is possible to construct it if we construct it ourselves but we lack money and the government did not invest in it.         |
| Q | How did you water the fields before?                                                                                           |
| A | We carried the water there. Before we lived near the river so it was closer to us to carry the water.                          |
| Q | Any other comments or thoughts?                                                                                                |
| A | No. Only one demand: we want the government to help us improve the water supply, the electricity supply and improve the roads. |

**INTERVIEW 18. Relocated due to Qingjiang bridge: small shopowner**

|   |                                                                                                                                                 |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Q | How long have you been living in this town?                                                                                                     |
| A | Since I was born                                                                                                                                |
| Q | How old are you?                                                                                                                                |
| A | 42                                                                                                                                              |
| Q | Do you remember when Geheyan was constructed?                                                                                                   |
| A | It was finished around 1992                                                                                                                     |
| Q | Could you explain the differences between and after Geheyan was constructed?                                                                    |
| A | It promotes the economy in this town, and peoples' living conditions are becoming better. And it also promotes the development of tourism here. |
| Q | How would you describe the development of this town before Geheyan?                                                                             |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A | Before there were only one main road, Qingjiang road, and after that there were more new roads along the Qingjiang river. Afterwards more tall and new buildings, and also more small shops emerged.                                                                                                                                                                                                                                                                                                                                                                                                    |
| Q | Do you remember peoples' reaction or attitudes towards the dam, were they in favor or against it?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| A | My family had to move to another place because of the construction of the Qingjiang bridge, which is built for the dam. We moved to upper areas so it makes it inconvenient for us to work, study, and buy groceries and other commodities. Before we lived just by the roads, so it became inconvenient when we moved to the upper areas in the mountains. We were not so willing to move but with the government's persuasion and for the overall development, all people in our group had to move. The Qingjiang bridge is built for carrying materials and facilitated the construction of the dam. |
| Q | So are you are a migrant?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| A | Yes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Q | Did you get compensation?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| A | Very little. All the compensation covered (only) the building of a new house. So we had to do other things to make money.                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Q | Do you the location (for moving) or did the government choose it for you?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| A | Actually the government bought the land there and then migrants had to build their houses themselves. The government persuaded them a lot.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Q | How was the economic situation before people moved?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| A | Just so so, without land we had to find temporary jobs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Q | Were people in your village farmers before they moved?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| A | Before people made a living both by farming and doing temporary jobs. But now people made a living almost through temporary jobs.                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Q | What did you farm before?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| A | Corn, sweet potato                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Q | Why was there no farmland after you were relocated to the new area?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| A | Because we built the houses on farmlands, so there were no farmlands left.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Q | Do you think there are any other impacts of by Geheyang on this town?                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| A | It has promoted the economy and tourism and the transportation. There is shipping after the construction of the dam.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |

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|   |                                                                                                               |
|---|---------------------------------------------------------------------------------------------------------------|
| Q | What's the name of your village?                                                                              |
| A | Houshan village (In Chinese means back mountain village). And now her village is called Lungzhouping village. |
| Q | How many migrants in your village?                                                                            |
| A | 8 families.                                                                                                   |
| Q | Do you have anything else to add?                                                                             |
| A | No.                                                                                                           |
| Q | Thank you so much for your help.                                                                              |

**INTERVIEW 21. Rural migrant: street vendor**

|   |                                                                                                                                           |
|---|-------------------------------------------------------------------------------------------------------------------------------------------|
| Q | How long have you been living in this County?                                                                                             |
| A | For 20 -30 years                                                                                                                          |
| Q | Where did you live before?                                                                                                                |
| A | In the area of Geheyang Dam                                                                                                               |
| Q | Why did you move from that town to this one?                                                                                              |
| A | Mainly because of marriage. I was married here before the construction of the dam, but my original family had to move because of the dam. |
| Q | Was it the government's plan or your own will to move here?                                                                               |
| A | The government has persuaded of course.                                                                                                   |
| Q | How did you feel when the government said that you had to move? Were you in favor of it or against it?                                    |
| A | Most of the people were willing to move because their houses and farmlands were flooded, so they had no other option.                     |
| Q | Did you get any compensation from the government?                                                                                         |
| A | Just a little.                                                                                                                            |
| Q | How big was your village? How many households?                                                                                            |
| A | I cannot remember very clearly. Several groups.                                                                                           |
| Q | Did the whole village move to this town?                                                                                                  |

|   |                                                                                                                                                                        |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A | Just people who lived in the lower areas had to move, those who lived in the upper areas did not have to move.                                                         |
| Q | Did they move to this town or to the upper areas in the mountains?                                                                                                     |
| A | Just a few people moved to this town, most of them moved to the upper areas in the mountains or Jinzhou city (prefectural city in Hubei province).                     |
| Q | What was your occupation before you moved here?                                                                                                                        |
| A | Before I was a tailor, and when I moved here I started working in a meat factory.                                                                                      |
| Q | Were there many farmers in your village before?                                                                                                                        |
| A | Yes, many.                                                                                                                                                             |
| Q | What did they farm?                                                                                                                                                    |
| A | Rice and corn.                                                                                                                                                         |
| Q | How did the government persuade you to move? What did they say?                                                                                                        |
| A | I cannot remember very clearly.                                                                                                                                        |
| Q | How has your life been after you moved here?                                                                                                                           |
| A | Before we had farmlands and vegetables so we could make a living on ourselves by planting crops. But nowadays we have to buy everything.                               |
| Q | How many years did it take for you to start a new life?                                                                                                                |
| A | At first, I was not accustomed to the new life and environment. It took me approximately one year to adapt to it.                                                      |
| Q | Do you feel any changes or developments before and after the construction of the dam?                                                                                  |
| A | The houses were very old and shabby before, and houses now are modern, new and advanced. People's living conditions are becoming better with their increasing incomes. |
| Q | Do you feel the same thing /development?                                                                                                                               |
| A | Yes.                                                                                                                                                                   |
| Q | In which aspect was it difficult to adapt at first?                                                                                                                    |
| A | My village was flooded, and it was very difficult emotionally. I lost my original hometown.                                                                            |
| Q | When did you hear about the plans of constructing the dam for the first time, and when did you have to move?                                                           |

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|   |                                                                                                                                                                                                         |
|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A | I first heard about it 1987, and I moved here in 1980.                                                                                                                                                  |
| Q | Did the other people in the village move to this town in 1987 too?                                                                                                                                      |
| A | There are two periods when people moved. First happened between 1987-88 and the second happened in 1990.                                                                                                |
| Q | What is your general opinion regarding the dam, is it positive or negative?                                                                                                                             |
| A | Generally speaking there are many benefits. The floods are controlled and with the construction of the dam it offers opportunities for people to do little business besides farming and begin new life. |
| Q | Were there many floods before?                                                                                                                                                                          |
| A | Yes.                                                                                                                                                                                                    |
| Q | What was the influence of these floods?                                                                                                                                                                 |
| A | Peoples' houses and farmlands were flooded and people's pigs were flushed away.                                                                                                                         |
| Q | How old are you?                                                                                                                                                                                        |
| A | Why do you want to know my age?                                                                                                                                                                         |
| Q | To divide the old, middle aged and young people.                                                                                                                                                        |
| A | I am 50 years old.                                                                                                                                                                                      |
| Q | Do you have anything else to add                                                                                                                                                                        |
| A | Do not think so.                                                                                                                                                                                        |
| Q | Thank you so much for your help                                                                                                                                                                         |

## Appendix 4. Interview questions for participants

### Questions (provide the basis for in-depth and short interviews) <sup>20</sup>

- 1) How long have you been living in Lungzhouping? Where did you live before (In this county or somewhere else)?
- 2) How was this town developed before and after the Geheyen dam? How would you describe the town's physical setting before and after the dam?
- 3) Were there any floods before Geheyen? Which affect did it have on local peoples' livelihood and farming? How often did they occur? Was there any major flooding that occurred?
- 4) When and how did tourism start developing? What is the importance of tourism for local economy and its development?
- 5) When was the Tujia "artifacts" such as the square and old gate, constructed? Does the government incorporate Tujia culture into tourism? How has this affected Tujia identity?
- 6) How was the infrastructure before and after Geheyen? Who invested in infrastructure and why? What was the importance of this investment for socio-economic development?
- 7) How did the energy production from Geheyen affect local economy? How many factories are here?
- 8) When was commercial fishing developed? What is its importance for local economy? Is it mainly corporations or individuals that engage in it?
- 9) How has peoples living standards developed? How would you describe peoples' living standards before Geheyen and today?
- 10) Have you experienced any environmental change since Geheyen was constructed?
- 11) Were there any relocation caused by Geheyen? How was relocation realized and by whom? Was the compensation enough? If not, what were the main reasons for not being enough? What happened with these relocated people and their socio-economic development?
- 12) Were there any rural migration to Lungzhouping after the relocation process was completed? What were the main reasons for this migration?

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<sup>20</sup> Excluding governmental officials

13) Do you have any additional comments on Geheyan's affect on local development? <sup>21</sup>

***Additional questions for migrants:***

- a) When were you relocated and to where? Why were you relocated? How many people was relocated and where did they move?
- b) How was the relocation process implemented and by whom? Was the central government involved?
- c) Did you receive any compensation for your losses? How much was the compensation and what did it compensate? Was the compensation enough? If no, what were the main reasons for this?
- d) Did you construct your house yourselves or did the government help you? Where did you live while waiting for your house to be reconstructed?

***Additional questions for those relocated to rural areas;***

- a) What was your main occupation after relocation?
- b) How many years does it take to restore your production year? E.g. if you plant tangerines, how many years is required before economical income can be generated? How did you survive economically during this time period (after relocation until farming could generate income)?
- c) How was the land quality after relocation to upper mountainous areas?
- d) How were the sentiments among people towards relocation? How did government persuade them to move?
- e) How was your socio-economic development affected by the relocation?

***Additional questions those migrating or was relocated to urban areas;***

- a) How was your life affected due to migration/relocation?
- b) What was your main occupation before relocation, and your occupation after relocation/migration?
- c) Did you experience any problems adapting both socio-economically and psychologically. If yes, why and in which way?

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<sup>21</sup> Interviews were semi-structured, and thus not *all* questions were necessarily included, and also additional questions that has been was added to clarify some statements.

- d) How was your socio-economic development affected by relocation/ migration to Lungzhouping?

**Additional questions for in-depth interviews with specialists<sup>22</sup>**

*Tourist guide:*

- a) When did local tourism develop? How did Geheyan affect it?
- b) What are its main characteristics and view sites?
- c) Does the local tourism have a Tujia profile?
- d) How is the cooperation between Yichang (TGP) and Changyang? Why is this cooperation be important?
- e) In which way does Tourism contribute to local economy?

*Geheyan factory worker and State grid workers:*

- a) How much energy does Geheyan produce and which importance does it have for local development?
- b) Which parties were in charge of Geheyan's construction?
- c) Who owns State Grid and when was it established? What are the main responsibilities of State Grid, and what is its relation to Geheyan?
- d) How many generators do Geheyan have? Where is the electricity transmitted and for what purpose? How are the electricity prices in Changyang today? Are there any subsidies on electricity prices, since the electricity is produced locally?

*Geography teacher:*

- a) How has Geheyan affected Changyang's geographical setting?
- b) Are there any environmental changes caused by Geheyan?
- c) Is there any pollution and how is it produced?

---

<sup>22</sup> These questions were added to have more in-depth analysis and statements about these people's expertise.



**Interview questions for governmental officials<sup>23</sup>**

***Questions for the director of Tourism bureau***

1. When was this department established?
2. When did the tourism begin? And who promoted it (Who's idea?)
3. Was there any tourism before the Geheyan was developed and in which has it developed?
4. Which are the main field sites and where are they located?
5. Does the tourism have a Tujia profile? When were the cultural monuments established?
6. In which way is tourism important for this town and it's economy?
7. Does the rural areas benefit from the tourism? Are there any tourism developing in rural areas, and if yes who invests (what is the government's role?)
8. What is the plan for ancient village next to Qingjiang bridge?
9. How can the government afford all these investments – main income?
10. Who has promoted the tourism and in which way? I heard about the swimmer, and the four spokespersons.
11. What are the future plans? Will there be any cooperation with Yichang government?
12. Could tourism have been possible without the construction of the dam?

***Questions for the director of Migration bureau***

1. When was this department established, and main responsibilities?
2. How is the demography of migration; rural-rural, rural-urban and when did it begin?
3. How many people were relocated due to Geheyan project from which villages and where did these people move?
4. Who was in charge of the construction of the dam and the relocation? Was the national and regional government involved?
5. Is the dam part of the national development policy, and if yes – in which way?
6. How was the relocation process carried out? Which periods were the relocation and how was the reactions' / attitudes towards the dam and relocation before and after the dam was constructed?
7. Any compensation? And how were people's living conditions before and after the relocation?

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<sup>23</sup> Semi-structured interview method. Not all questions were asked, due to time limitations and additional questions were asked to clarify some statements.

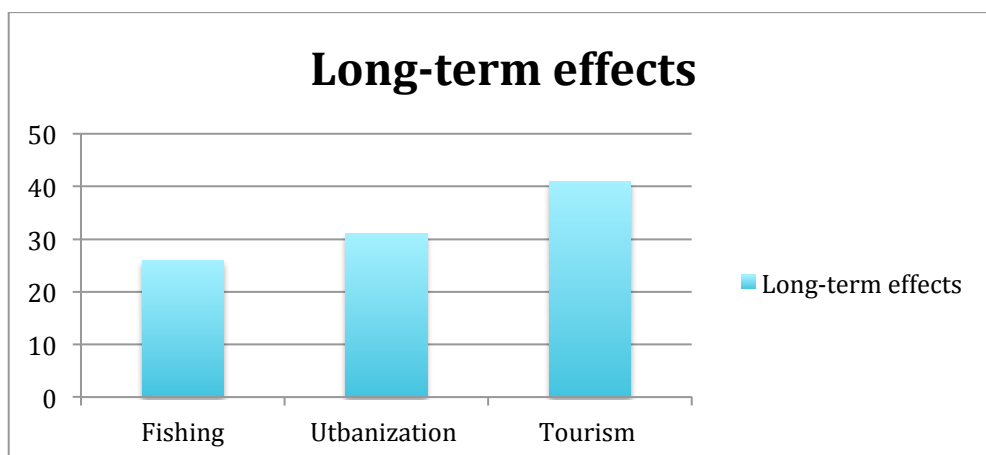
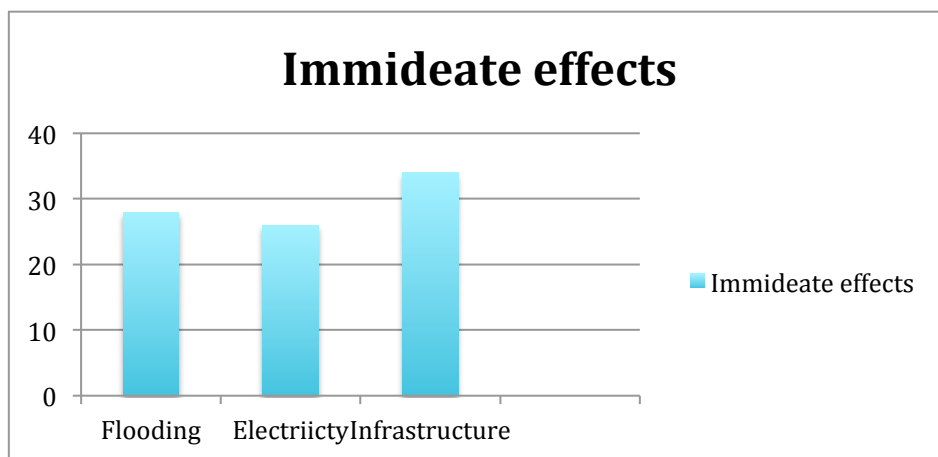
8. What was the population of this town before and after the Geheyuan dam was constructed?
9. Main reasons for migration?
10. How is the life for migrants in the cities?
11. Is migration encouraged or discouraged by the government?
12. Is there any difference between the relocation policy when the dam was built, and today's relocation due to tourist projects?

## Appendix 5. Overview of topics discussed

Topics discussed with participants (52 participants , excluding directors of Changyang’s Migration and Tourism bureau)

Table: Amount of participants that immediate and long-term impacts of Geheyan dam on Changyang

| Immideate effects |             |                | Long-term effects |              |         |
|-------------------|-------------|----------------|-------------------|--------------|---------|
| Flooding          | Electricity | Infrastructure | Tourism           | Urbanization | Fishing |
| 28                | 26          | 34             | 41                | 31           | 26      |



## Appendix 6. Transcribed interviews: Local governmental officials

### INTERVIEW: Director of Tourism bureau Changyang Tujia Autonomous County, in Hubei Province

Conducted: 2012.02.10

Q When was this department established and what are its main responsibilities?

A It was established in 1981 (?). The tourism department is a very important department of the local government. Aimed at serving for local tourism development and also the regulation of this industry. Based on the governments policy the tourism bureau is also attracting investment to Changyang and develop various view sites.

Q In which way did you attract investment and from whom?

A First there is a local investment bureau, it will publish investment information as to attract information and adds as to attract investment. Other ways, is to go outside the community and get in touch with tourism cooperation across the country. In 2011, we have attracted investment from .....Yunnan group in Guangzhou. In following 5-10 years this cooperation will invest 10 billion in local tourism to develop more view sites, hotels for tourists, special food (mainly semi-products). Most famous view sites is Qingjiang river, has applied for 5A level, and have also invested in cooperation in western Hubei. Yichang invested 8000 million.

Q The ones in western Hubei are they also involved in TGP?

A Actually that corporation is a state-owned tourism cooperation also that corporation has invested in 35 view sites in Hubei province. As to the proportion this corporation invested 51% and local government 49% (of the costs) in Changyang. In 2010, we signed an agreement and from that year hereon they have invested.

Q When did the tourism begin and who was promoting it? Whose idea was it?

A Back to your first question, in 1981 there was a group (organization) established, not something official, formal one. In 1986 the department was established

formally. In 1986 the Geheyan dam began to be built and this projects various benefits to Changyang such as electricity, control flooding and also promotes tourism, develop shipping, so the government make full use of this opportunity to develop tourism. Around the same year the tourism bureau was built. Early 1990's the local tourism started to develop.

Q Was there any tourism before Geheyan was constructed?

A Before the construction of the dam, the tourists were mainly local people, because Changyang because of oranges and it's Tujia minority and also wu long zhi mountain is very famous mountain among people. Local people admir ling zhun (the statue) is the ancestor, so many people want to visit wu long zhu and tian zhu mountains. Actually there is tourism before the construction of the dam, but the scale is very small. Tourist are not many and mainly local people. Actually tourism has developed greatly after the construction of the dam, it has promoted tourist sights and government has used propaganda and marketing and developed infrastructure for tourism. They have also attracted investment and with all this endeavors tourism has developed after the construction of the dam. Nowadays Qingjiang scenery is one of the most famous view sights in Hubei province. In Yichang area, Changyang is one of the most important destination for tourists. Also Changyang is reputed as the outstanding County for tourism in Hubei Province.

Q How many islands were created after the dam was constructed?

A After the construction of the dam there emerged more than 100 small islands. Before it was called "Beidao lake"; Northern island's lake. The government is trying to elevate its reputation and thus have changed its name to Qingjiang huala. Several among the 100 islands are now being invested in such as latitude 30 island. It was invested by a Hong Kong corporation more than 6,6 billion rmb.

Q Does the Tourism have a Tujia profile and when were the cultural artifacts in the town built?

A Tourism is closely related with culture, so culture is the soul of tourism. Actually the government is trying to combine tourism with culture to develop both industries. As I mentioned we have a new name Ecological and cultural Tourism County, that's the point. First the ecological, is focusing on the natural scenery at the Qingjiang river 800 km within Changyang area. Along that river there are

many natural sceneries just like (resembling) a picture. As to the cultural aspects, Changyang county is the origin for Tujia minority and many people admire our ancestors and also Wu Long Zhou Li mountain is the birthplace of our ancestors, so the government is also trying to fully develop Wu Long Zhou Li mountain to attract Tujia minority offspring across the country to pray for their ancestors. Actually we call this program “A journey to visit our Tujia ancestors”. And also there is a bureau called “Cultural bureau and they are trying to develop Tujia performances, so they will wear traditional songs, traditional Tujia clothes, sing traditional Tujia songs and perform for tourists. Songs and dances leave great impression on tourists, apart from performances there are various books and pictures for Tujia culture.

**Q** This is a minority County, and what does this mean in practice? To be a Tujia Minority Autonomous County?

**A** There are 125 Autonomous Counties across the country, and there is 1 autonomous city and two autonomous counties in Hubei province and Changyang is one of them. As for the autonomy, actually the state has given certain powers or rights to local government. One of the most important rights is legal right, so maybe the County’s government has rights to build their local laws or regulations. As to the tourism industry the government has released Tourism regulation for Tujia Autonomous County. This regulation aim to protecting our environment from pollution when developing our Tourism. Tourism bureau most develop tourism according to the regulations, also it can help industry management.

**Q** So also the industries has to follow the regulations?

**A** Not other industries, only tourism industry.

**Q** And any other legal rights or powers delegated to the County?

**A** Yes, also decision powers, appointment of directors and local officials.

**Q** Who decided who is going to be appointed? People or?

**A** Actually People’s Representative Committee.

**Q** And what is this Committee and who is in this committee?

**A** Actually people in Peoples Committee belong to all kind of fields in society and they are voted as representative by the society. In this committee there are people

from various professions such as workers, farmers, doctors and maybe office workers. They also consider the proportion of the female and Tujia minority. Tujia minority is accounted for 51% of the population in this County, so in this committee people will also consider Tujia, and since women are perceived as disadvantaged group we take them into consideration. Population of Tujia minority should account most in the committee and also the Director of this committee has to belong to Tujia, and also the Chairman of this County has to be Tujia minority.

**Q** How is Tourism important for this County's economy and local peoples' income?

**A** First it has promoted territory industry. Common people living near the view sights has benefited most, since tourists need to eat, sleep, shop, entertainment here – so it has promoted local hotels, restaurants and special food here. With the development of the Tourism our reputation has increased a lot, and information and communication is more convenient and efficient. And also the development of tourism has offered a lot of job opportunities, especially for young people. Now days many young people are devoted to Tourism and compared with other sectors young people who work with tourism has increased a lot, and their sushi (quality) also increased than before. Nowadays, there are around 60,000 people working in the field of Tourism. So generally speaking the tourism has offered a lot of job opportunities and also promote social stability.

Also the protection of the environment, the local government also released “ecology and environment protection regulation” of the Tujia County so factories and industries who produce pollution are forbidden, so we can protect our green mountains and clear rivers.

**Q** My last question is does the rural areas benefit from Tourism? Is there any tourism developed in rural areas, and if yes who invest in rural areas?

**A** The view sites along the Qingjiang river are mainly in rural areas, so green mountains, clear river all together can promote the development in rural areas and actually during the development the government is also trying to make farmers take part in it and also let farmers offer their suggestions of the development of the tourism. Tourism bureau is also developing village tourism and trip to the village, the tourist will usually pay for their visit in unique villages such as ancient village and also government will invest a lot in village tourism. Another example is Happy farmers just across the river, the farmers will set up their restaurants in their own

homes to attract tourists to their own homes to have dinner, and the flavor is from the village. There are around 520 households of happy farmer restaurants, the government has invested 5,2 million in the village tourism. The farmers also helped development of tourist products such as sausage, potatoes, Qingjiang fish, mouyu, all of these are depending on farmers to develop. The government take part in all kind of tourism competition in the province and won many prices e.g. one is the second price in province level competition to attract more tourists here to develop the rural areas tourism.

Q The tourist project in this town, people have been relocated due to projects and how is this relocation carried out. How does the compensation look like and how many times has there been relocation because of tourism projects, e.g. because of the ancient town?

A Actually there were developed new tourist sites in places where there are few people. So, actually there are very few migrants, but yes there are, but very few. Actually the people, the potential migrants and the government will sign a protocol to protect their e.g. housing right, property rights, so it is actually based on farmers. There are famers, and if they are willing to move and also I think they are aware that if this places are developed into Tourist sites also it will bring new opportunities for themselves e.g. to develop special food, and also Qingjiang stones, and also set up restaurants so it is an opportunity for them to make big money. Also the government will give them satisfactory money as compensation.

Q Ok, thank you so much for your help. I don't have any other questions.

(Director's phone ringing, and afterwards Director continues speaking to Xiaoyu)

A Tourism planning in the following 5-15 years is mainly to protect environment and farmers interests during the development so the core planning is to develop the tourism and protect the environment in accordance to our regulation.

Q And why is protecting the environment so important? Is it for the tourism or for the County, why is it important?

A Firstly, for our offspring to offer them a perfect and natural environment for working, studying and living. Secondly, for the County's economy, to develop our local economy sustainably. Thirdly, for tourism with natural sceneries we can attract more tourists, and also tourism in... To protect our environment is also a



kind of responsible behavior for our offspring. And so the develop process according to the regulations and with our purposes no deforestation and also in our area, the forests need to account for 70% of the area is a requirement by the government.

(The director gives us two policy documents).

The government wants to combine Tujia culture and Tourism, and this is the regulation “Folk traditional culture protection regulation”. Local regulations passed by the peoples’ committee.

Q Both regulations?

A Yes

Q So when the government has a new document, they usually give it to peoples’ committee and then they have to approve?

A Yes, approve.

Q Could you ask him if I could take a picture of him? (The director keeps on talking).

A Actually tourism is one of the main three things in Changyang beside industry and farming. Changyang county has applied to 5A level scenery, and we are confident to get it. I wish you a pleasant journey here and hope to see you come back here. Also if you have any suggestions about how to develop the tourism I would appreciate it a lot.

Local people has benefited a lot from reform and opening policy the past 30 years and from your fieldwork you can see that people feel very happy, and now days together with the development of tourism the pace of the city building and infrastructure is faster. This town becomes more beautiful and also training for tourist guides are given once every year. They train tourist guides so they can improve their qualities and offer better services for tourists so they have confidence in developing Tourism.

Q Wish them good luck with the 5A and hope next time I get back here it will be 5A.

**Interview with the Director of Migration Bureau in Changyang Tujia Autonomous  
County, Hubei Province.**

Conducted: 2011.02.10

**Q** When was this department established and what is its main responsibilities?

**A** In 1986. It is responsible for migrants of three reservoirs along Qingjiang river, because of the Geheyan dam, Shuibuya dam and Gaobazhou dam, mainly to offer them farmlands, housing and water after the relocation

**Q** Ok, so this was created in relation to the dams?

**A** Yes, In 1986 the Geheyan dam began to be built and later on the immigration bureau was established the same year, but after they started to construct the dam.

(Director give us an ethnographic book written by those in charge of the relocation)

**Q** When was the relocation start?

**A** From 1986 to 1993.

**Q** How many were relocated during this period and from which areas?

**A** Around 50,000 migrants, 80% of which moved to upper areas of mountains, and remaining 20% to other towns or counties. As to other dams Shuibuya 1997 and Gaobazhou dam 2000

**Q** Was these years when the relocation or construction started?

**A** When the dam started.

**Q** And how many people were relocated in those dams?

**A** 20,000 people in Gaobazhou dam

(Interruption of coworker)

(Reading from the book: different prices /compensation on houses depending on the material, wood, concrete. Compensation according to conditions, but fixed prices, e.g. 120 m<sup>2</sup> for houses made of concrete. )

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|   |                                                                                                                                                                                                                 |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Q | Who was in charge of the construction of the dam and the relocation? The central or regional government or this bureau?                                                                                         |
| A | A department under the central government that were responsible for the planning and building of the dam, and local migration bureau is responsible for the migration /relocation.                              |
| Q | This bureau then?                                                                                                                                                                                               |
| A | Yes.                                                                                                                                                                                                            |
| Q | What was the reason the central government were involved in this project? Is this dam project a national project or was it something the local government wanted themselves?                                    |
| A | Actually it is corporation between province government and a department under the central government.                                                                                                           |
| Q | Which department?                                                                                                                                                                                               |
| A | Shuei ni shuei dian department, water and electricity department.                                                                                                                                               |
| Q | Has this department built dams all around the country or only in Hubei province specifically? Why were they involved? What were their interests?                                                                |
| A | Because it is this department's responsibility to develop water resources.                                                                                                                                      |
| Q | The relocation process, did they have a format /instructions they had to follow when relocating? E.g. the compensation, relocation, was there anyone that helped them to shape a strategy?                      |
| A | Before they moved the migration bureau compensation including housing, farmland they had before. We will also give them money as moving fees. After they moved there are other compensation for their new life. |
| Q | Were they giving houses or money to buy houses?                                                                                                                                                                 |
| A | Give them money, and they have to build it themselves.                                                                                                                                                          |
| Q | And how about the farming land, did they distribute it as well? E.g. if they lost farming land were they given new farming land at all times or was there any moments when farming land was not enough?         |

|   |                                                                                                                                                                                                                                                                                                                                                                                        |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| A | Actually there are two ways; first, when people were relocated in a new area, then the migration bureau, the local people already living there gave them some fields to the new migrants. Secondly, the Migration bureau explores and develops farmlands for the migrants in their new area. And the requirements are at least one km <sup>2</sup> per person, especially for farmers. |
| Q | How was the relocation process carried out? How was the process itself; they went there, had a discussion, signed a contract and they moved or? And the other question is how was the reactions towards the relocation before and after the dam was constructed?                                                                                                                       |
| A | Actually both the county's migration bureau and the national migration bureau is responsible, and before they moved the common people will sign a protocol with the government.                                                                                                                                                                                                        |
| Q | Is it a protocol, or an agreement?                                                                                                                                                                                                                                                                                                                                                     |
| A | Agreement. Mainly about compensation, and when they reached an agreement the migrants moved to a new place.                                                                                                                                                                                                                                                                            |
| Q | Who decided where they were going to be relocated? Could the migrants choose themselves or did the government choose for them?                                                                                                                                                                                                                                                         |
| A | Actually there are also two ways; one is that the government is responsible for finding them a new place, especially in other counties and cities. Other is that migrant themselves find new places for themselves. So these two ways are combined together                                                                                                                            |
| Q | So how was the reactions in the beginning and afterwards?                                                                                                                                                                                                                                                                                                                              |
| A | Since the dam is a national project, it was for the sake of the whole country, thus most of the people were willing to move. Also because the government said that they are required to move, people had no other options.                                                                                                                                                             |
| Q | Were there a lot of complaints? E.g. among the old people since it might be difficult for them to move?                                                                                                                                                                                                                                                                                |
| A | There are complaints, maybe not willing to move.                                                                                                                                                                                                                                                                                                                                       |
| Q | And which group complained most? Was it the young ones, the old ones? Because I heard that young people were more positive about the project than the old ones.                                                                                                                                                                                                                        |

|   |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|---|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | Does he remember which age group that was most in favor and not in favor of the project?                                                                                                                                                                                                                                                                                                                                                |
| A | Very few people were not willing to move, mainly old people.                                                                                                                                                                                                                                                                                                                                                                            |
| Q | And how was it after the relocation? Was the compensation enough? And how were their lives afterwards?                                                                                                                                                                                                                                                                                                                                  |
| A | Most of the migrants their conditions are becoming better than before, when comparing to themselves. A few have lower conditions in comparison to local people, especially those that are making a living by farming. Most of them moved to the upper areas of mountains and after they moved the quality of the soils became worse then when they were living by the river. So if they were only farmers, the conditions become worse. |
| Q | Does you know when the migration from rural to urban areas began? Are there any migration flows?                                                                                                                                                                                                                                                                                                                                        |
| A | Before 1993 maybe there were around 10,000 dam migrants from rural areas that went to towns. And today's figures it is not their responsibility to know and organize.                                                                                                                                                                                                                                                                   |
| Q | How much was the population of this city (referring to Lungzhouping) before and after the dam was constructed?                                                                                                                                                                                                                                                                                                                          |
| A | Before around 20,000 in this town and now there is around 50,000                                                                                                                                                                                                                                                                                                                                                                        |
| Q | And how about hukou? Are there any restrictions for migration imposed by hukou, or is the system flexible? Is it flexible enough in terms of schooling, finding a job?                                                                                                                                                                                                                                                                  |
| A | Within Changyang county hukou is not significant, whether you are from this town or that town, village or not.                                                                                                                                                                                                                                                                                                                          |
| Q | So it does not matter?                                                                                                                                                                                                                                                                                                                                                                                                                  |
| A | No it does not matter. But if you work in another county or people from other counties want to come here, then it matters.                                                                                                                                                                                                                                                                                                              |
| Q | So it is flexible to move around?                                                                                                                                                                                                                                                                                                                                                                                                       |
| A | Yes.                                                                                                                                                                                                                                                                                                                                                                                                                                    |

|   |                                                                                                                                                                                |
|---|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Q | So what are the main reasons behind migration today? Why does people move from rural areas to urban areas today?                                                               |
| A | Two reasons; one to find a good job or create a business for themselves. Secondly, for their children to receive better education in the town.                                 |
| Q | And how are their living conditions here, is it easy for them to adapt, find a job?                                                                                            |
| A | usually people that are economically friendly will choose to come to the town, so their original conditions are good. They can afford a life here.                             |
| Q | So the poor people stay in the rural areas because they cannot afford moving in , and the richer ones, wealthier ones move in because they can afford it?                      |
| A | Yes. Poor people prefer to remain in rural areas and make a living mainly through farming.                                                                                     |
| Q | So farmers are the poorest group in the economy, when it comes to work, within this county?                                                                                    |
| A | Yes. Planting crops, rice.                                                                                                                                                     |
| Q | How is the governments current approach the migration, do they encourage migration to the city? Do they have any programs such as educational for migrants coming to the town? |
| A | Programs for dam migrants to repair roads, improve water supply and construct housing.                                                                                         |
| Q | Is this in the town or rural areas as well?                                                                                                                                    |
| A | Almost every year all the migrants in the County. Now there is a policy for migrants. Give 600 rmb per year/migrant lasting for 20 years.                                      |
| Q | Are these migrants all migrants or migrants from the dam?                                                                                                                      |
| A | Only dam migrants                                                                                                                                                              |
| Q | Any other compensation the dam migrants received, except for this?                                                                                                             |
| A | Before they were relocated they received a part of the compensation and after they moved 600rmb along with this program repairing roads, improve water supply etc.             |

|   |                                                                                                                                                                                                                                                                                                                        |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Q | Are there any programs for migrants coming here from rural areas, to get training, education, and practical education? Does the local government offer them these type of programs?                                                                                                                                    |
| A | Yes, actually there is both every year, and actually it is like this: they will give dam migrants money and they use this money to take part in vocational training and skill training in Yichang.                                                                                                                     |
| Q | Is this additional money included in the 600 or extra money?                                                                                                                                                                                                                                                           |
| A | Extra money. Actually it depends, according to the potential people who needs this kind of education. Around 2,000-3,000 rmb.                                                                                                                                                                                          |
| Q | Is there any difference between the relocation policy when the Geheyan was constructed and today's relocation policy? E.g. they were thinking of building new tourist sites, so is it still this department that is responsible for the relocation and is it still the same policy used before as now when relocating? |
| A | Actually before they moved they will get a regular fee, and that kind of compensation was released before the construction of the dam and, this new program (repairing new roads, water etc. and 600 rmb started from 2006.                                                                                            |
| Q | So this compensation was also given to the old migrants as well, e.g. the ones from the Geheyan dam as well or?                                                                                                                                                                                                        |
| A | Yes.                                                                                                                                                                                                                                                                                                                   |
| Q | So they could also benefit?                                                                                                                                                                                                                                                                                            |
| A | Yes.                                                                                                                                                                                                                                                                                                                   |
| Q | So did they have any other kind of compensation before this policy in 2006, construction the roads and 600 rmb?                                                                                                                                                                                                        |
| A | No. Before 2006 there were only regular fees for moving. Actually this program is for their further development, not fee.                                                                                                                                                                                              |
| Q | Is this policy something from the central government want them to do or something them, this County shaped?                                                                                                                                                                                                            |
| A | The spirit comes from the central government, and also with the province instruction and then the local government is responsible for practicing                                                                                                                                                                       |

|   |                                                                                                                                                                                                                              |
|---|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | /implementing it.                                                                                                                                                                                                            |
| Q | Does he know the reasons behind developing this kind of policy? Were the migrant's development low and was this the reason behind why they developed the new policy?                                                         |
| A | Actually at first common people sacrificed themselves their houses, property so this program is a sustainable help for them to develop.                                                                                      |
| Q | I heard something about that people received compensation the first three years after their relocation. Does he know something about this, does he know if they received compensation for a short time after the relocation? |
| A | The regular fees for moving and also compensation for losing properties is just this 600                                                                                                                                     |
| Q | So what are the regular fees for moving?                                                                                                                                                                                     |
| A | It just means that I will give you money if you move, it is according to number of people, 2,000 rmb per person not household, at that time's currency.                                                                      |
| Q | The time of Geheyuan?                                                                                                                                                                                                        |
| A | Yes.                                                                                                                                                                                                                         |
| Q | How many villages disappeared after the dam?                                                                                                                                                                                 |
| A | 51 villages were flooded because of the dam, and migrants were sent to 67 villages.                                                                                                                                          |
| Q | So did these villages disappear totally or was it only a part of it that was flooded?                                                                                                                                        |
| A | No just part of the villages, the phenomenon you ask only happens in plain areas, and in the mountainous areas it will not be flooded.                                                                                       |
| Q | Ok, then I am done with my questions. Does he have anything else he wants to add?                                                                                                                                            |
| A | Qingjiang river is more than 80 km long with 3 reservoirs created by Geheyuan, Gaobazhou and Shuibuya dam.                                                                                                                   |
| Q | All of them create electricity?                                                                                                                                                                                              |



The role of Infrastructure Projects in Socio-economic Development;  
Case study of Geheyen dam

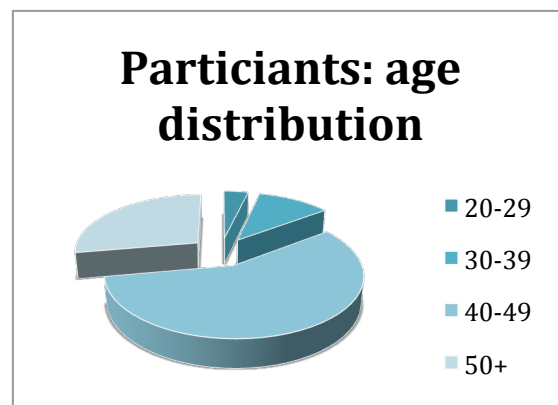
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|---|--------------------------------------------------|
| A | Yes.                                             |
| Q | Which one is the biggest station?                |
| A | Shuibuya, but the most efficient one is Geheyen. |
| Q | Geheyen was also the first one that was built?   |
| A | Yes.                                             |

## Appendix 7. Overview of participants' attributes

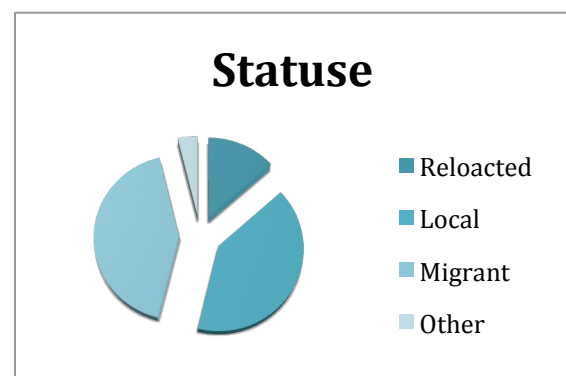
Total amount of interviews: 54 (Male 22, Female 32)

| Shallow and in-depth interviews |    | Migration year (26/31 told) |    |
|---------------------------------|----|-----------------------------|----|
| <b>1-40 minutes</b>             | 40 | <b>2000's</b>               | 8  |
| <b>40 minutes and above</b>     | 14 | <b>1990's</b>               | 10 |
|                                 |    | <b>1980's</b>               | 8  |

| Age group           |    |
|---------------------|----|
| <b>20-29</b>        | 2  |
| <b>30-39</b>        | 6  |
| <b>40-49</b>        | 31 |
| <b>50-59</b>        | 10 |
| <b>60 and above</b> | 5  |



| Status of participants  |    |
|-------------------------|----|
| <b>Local</b>            | 21 |
| <b>Rural Migrant</b>    | 22 |
| <b>Relocated people</b> | 7  |
| <b>Other</b>            | 4  |



## **Appendix 8. Additional information about the field study**

*This section will provide a deeper understanding of the field research through highlighting topics discussed, benefits and limitations with translator, participants' attitudes and my own position in the field.*

### **Limitations and benefits with translator**

O'reilly (2005) highlight the importance of language when conducting interviews; certain expressions and terminology affects our understanding of people (O'reilly 2005:95). Due to my lack of Chinese skills, a translator named Xiaoyu, was accompanying me when conducting interviews. All interviews were translated and recorded, and daily field notes were kept. Some of the interviews were transcribed together with Xiaoyu's help. There were several benefits with my selection of translator; firstly, we had already established friendship before the study and thus had a relaxed environment when conducting our study; secondly, as a sociology major she had sufficient English vocabulary and knowledge regarding my topic; thirdly and most importantly she belongs to Tujia minority and is a local, which indicated that she spoke the local language and had an existent established social network in Lungzhouping.

Xiaoyu's background was valuable in many respects, and she became my gatekeeper. As a foreigner in China I have learned that all regions in China has local dialects that could differ tremendously from standard Chinese (Putonghua). At my arrival I immediately understood that my Chinese dialect differed from the local one, although my Chinese skills are very basic. Thus, Xiaoyu's language skills in local dialect, standard Chinese and English were a brilliant combination. As "locals" Xiaoyu, Victor, Summer and their families had established personal network (Guangxi) in Changyang that I was allowed to access.

However one crucial limitation in using a translator concerned my interaction with my participants; for instance verbal interaction is important since specific words people choose to adopt when explaining phenomenon describe their feelings and

attitudes. Thus, my translator became to some extent a barrier to understand and interpret participants' word choice and world perception. To complement this deficit, I observed participants body language in order to interpret their attitude (whether they were relaxed, tense, suspicious etc).

### **Attitude of participants and the researcher**

Everyone is influenced by his or her background and experiences, which affect ones interpretation of the world. As a foreigner I needed to take my personal background into consideration when analyzing my data since it could affect my interpretation. The thesis process became very reflective, taking all aspects into consideration. Thankfully I had lived and studied several courses in China during a period of five months before conducting my field study. This was very valuable since I had received background knowledge about Chinese society and had become familiar with my new context.

I also had to take my role as a foreigner into consideration; Lungzhouping is a small town and since local tourism was off-season, I only met one foreigner during my stay. Many participants were welcoming and curious when we encountered them, however some also were suspicious towards my research and usually asked following questions; “why are you interested in Geheyan? What made you choose Changyang? Why are you writing about this? For whom are you writing?” Suspicion affect researchers results since people might be reluctant to speak freely about their opinions and experiences, especially to a foreigner in China. Since suspicion was expected and identified easily, Xiaoyu and me attempted to overcome this through explaining our research background, and through asking non-leading open-ended questions.

In this respect Xiaoyu became even more valuable, due to her already established social networks in Lungzhouping. Since it is relatively small town, and Xiaoyu's family has grown up there – many people recognized her and became automatically more relaxed when answering our questions. However, participants that expressed suspicion were few, and were automatically deselected if we noticed they were solely answering in a matter that was “politically correct”. When explaining our background and the purpose of the research majority of participants expressed positive attitude, willing to have discussion about the developments that have occurred since Geheyan.

It is important that acknowledge that suspicion could have caused *minor* errors in my findings but our attempt to overcome it was effective. Henceforth, when evaluating my research and my participants' statements I have a strong belief that the vast majority was honest with their answers providing me with their own opinions.

### **Human Subjects and confidentiality**

Many scholars have argued and highlighted the importance of raising ethical issues and draw measurements aimed at ensuring participants safety and integrity (O'reilly 2005:60). Several aspects were taken into consideration when interviewing people and their safety; questions asked, the sensitivity of topics, relations between government and its population etc.

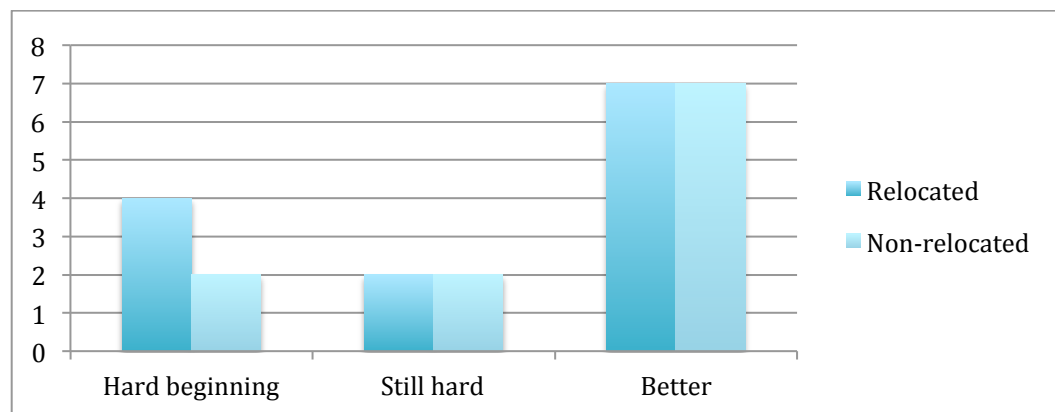
All participants were informed about my background, my study and research purpose. All participants were also asked to give their consent before I started recording, taking pictures etc. When conducting my interviews I took my surrounding into consideration when framing my questions, and if necessary chose to exclude some questions. If I was alone with the participant and /or in a surrounding where I could judge the participant was comfortable (e.g. surrounded by family members, close friends etc.) sensitive questions about issues such as relocation and negative implications of Geheyan was asked. In order to increase the confidentiality no names were asked.

Previous sections have highlighted how ethical issues were raised *inside* the field, nonetheless ethical issues needs to be raised *outside* the field. Thus, this research will change names (that I was informed) of participants and gatekeepers that helped me during my study. Detailed descriptions that could reveal participants' identity has been excluded and changed (such as gender, occupation), in order to increase their confidentiality.

## Appendix 9. Opinions on relocated peoples and general publics socio-economic development due to Geheyang

(Relocation issue was discussed with 18 participants)

| Relocated people |           |            |           |                      |           | General public <sup>24</sup> |
|------------------|-----------|------------|-----------|----------------------|-----------|------------------------------|
| Hard Beginning   |           | Still hard |           | Better <sup>25</sup> |           | Better                       |
| Local            | Relocated | Local      | Relocated | Local                | Relocated | Local & Relocated            |
| 2                | 4         | 2          | 2         | 7                    | 7         | 50                           |



<sup>24</sup> None of the participants stated that the development had been negative

<sup>25</sup> Including those that stated "hard beginning"