

The Impacts of “Land of Love, Water Cellar for Mothers”¹

RESEARCH PROPOSAL

Presented to
PEP Network

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Abstract

In this proposed study, we want to estimate the impacts of the “Land of Love, Water Cellar for Mothers” project that is launched to address the water scarcity in western China. In these areas, male labourers flock to cities as a result of China's social transformation, leaving women there as the main workforce in the poverty- and drought-stricken countryside. We intend to evaluate the effects of building water cellars on women's income and health conditions. We also want to explore how the project promotes women working outside home, migrating to cities and/or setting up their own business. Moreover, we are also interested in how the project changes women's status in intra-household relationships, family collective activities and women's empowerment. Finally, we want to study how the impacts depend on local conditions (such as local transportation and so on).

Introduction

Water shortage is a big worldwide issue. Many parts of western China are among such drought areas, where more than 20 million people are seriously affected. On the average, residents can use only around 110 cubic meters (m³) per person, roughly 15% of the national average and 3% of the world average. The lack of water causes hardships in life. It reduces agriculture production, affects health and education for local farmers, and leads to poverty. For example, in many villages facing water shortage, the annual income per capita was less than RMB 1,200 (USD 176) in 2005.

Male labourers flock to cities as a result of China's social transformation, leaving women there as the main workforce in the poverty- and drought-stricken countryside. Among women's many burdens were the daily, long trips to fetch water. Thus, they have very little time for other activities, not to mention migrating to cities like their husbands. Water shortage, to a large extent, reduces women mobility that is considered probably to be a biggest obstacle women work outside home. Serious water shortage also brings women there health problem. For instance, more than 80 per cent of women there suffer from gynaecological diseases because of the poor hygienic conditions caused by the lack of water supplies. Serious water shortage also contributes the high malnutrition rates of children and their high school dropout rates. Many children miss school as they must carry water.

In order to help people there, especially women, to shake off poverty due to water shortage, China Women's Development Foundation (CWDF) carried out a project, the "Land of Love, Water Cellar for Mothers" project, under the guidance of the All-China Women's Federation (ACWF). The project was launched in 2000. "Water cellar" is a kind of water-storing facility in North-western China's rural areas. Usually built underground, the water cellar looks like a jar or water vat and serves to accumulate rain and other usable water for man and livestock. Collecting rainwater is the most economical and practical way to improve water shortage situation.

The project raises charity money and finances farmers to build water cellars collecting rainwater. More importantly, the project involves technicians and experts of water resource who design water cellars and build small water supply facilities connecting cellars with pipes. Till now, the project has financed more than 10 thousands water

cellars and 1,500 small water supply facilities. Water cellars for mothers benefit women not only on fulfilling their main responsibilities (house/agriculture work) efficiently and improving their health, but on pursuing career development, such as working outside, setting up their own business. By helping women and their families, water cellar has benefited about 0.8 million farmers.

The past 30 years since China started carrying out the reform and opening-up policy witnessed marked buildup in China's overall national strength. Coastal areas in east China have made great progress in their development through two decades of unremitting efforts. The industries there, especially traditional industries, are almost saturated. They are eager to locate new markets, while the western regions are urgently in need of development. To ensure a fast, healthy and sustainable development of the national economy, the Central Committee of the Communist Party of China and the State Council of the People's Republic of China made the important strategic decision at the beginning of 2000 to implement Western Development and expedite the development of the western regions. A leading group composed of the Premier, Vice Premier and 19 ministerial-level officials, for Western Development was established under the State Council.

Among many China's western poverty reduction projects, the project "Land of Love, Water Cellar for Mothers" is the only one that directly benefits women. Although the project has been launched for eight years and has attracted many attentions, till now there is no concrete analysis on the impacts of the project. In the forum on China women's development in the 30 years of open policy reform (Nov, 2008), the vice presidents of ACWF pointed out "we do believe that the project changes the mothers' lives dramatically. However, we are not very clear on how and in which manner the project improves those mothers' situations. We would very appreciate those academics/researchers who intend to conduct this research. The research will provide us the guide line for the future implementation of the project and especially will help us discover what we should do next. Although we are not able to fund such research, we will provide facilities to conduct such research." When we visited the All-China Women's Federation in July 2009, the project office pointed to us that the research intent is very welcome and the research would be very useful in guiding their future work.

In this proposed study, we want to rigorously review the impact of the project on health and rural poverty in the areas hit seriously by water shortage. In particular, we want to evaluate the effects of building water cellars on women's income and health conditions. We also want to explore how the project promotes women working outside home, migrating to cities and/or setting up their own business. Moreover, we are also interested in how the project changes women's status in intra-household relationships, family collective activities and women's empowerment. Finally, we want to study how the impacts depend on local conditions (such as local transportation and so on). Our study will provide the overall in-depth evaluation of the project. Moreover, our study will make governmental policy makers and other NGOs understand how and what women can play a role in poverty reduction. Furthermore, our research will help policy makers and NGOs figure out how they could do better and what they should do next toward getting rid of poverty in western China. Our study will advise policy makers implementing China's national strategy of western development that benefits more than 32 millions the poorest.

Our study is the first research work studying the impacts of the water cellar project. In fact, there are many government funded and NGO funded poverty reduction projects in China, but there are few research works on evaluating the impacts of these poverty reduction. Especially, the research on the water cellars will help policy makers and NGOs understand how women can play roles in poverty reduction. Therefore, when policy makers and NGOs design poverty reduction policies, they should somehow take the gender issue into account. The key references are listed as follows.

Research questions

1. Whether and how does the "water cellar for mothers" project increase household incomes in projected areas?
2. Whether and how does the "water cellar for mothers" project improve household health status in projected areas?
3. Whether and how does the "water cellar for mothers" project increase women's incomes in projected areas?
4. Whether and how does the "water cellar for mothers" project increase women's activities in working outside home?

5. Whether and how does the “water cellar for mothers” project increases women’s migration to cities?
6. How does the “water cellar for mothers” project changes women’s status in intra-household relationships, family collective activities and women’s empowerment?
7. Whether and how do these effects (1-6) vary on local conditions?

Literature review

Most of literature on policy evaluation largely focused on binary treatment case. For instance, there are many studies on a job market training program. This literature could be tracked back to Ashenfelter (1978) and LaLonde (1986). In such settings, a number of individuals do, or do not enroll in a training program, with labor market outcomes, such as yearly earnings or employment status, as the main outcome of interest. Most works in this topic are to identify the average treatment effects. For instance, on average, how much the job market training program increases the participants’ salaries. More recently, many studies on this topic focus on quantile and distributional treatment effects. These study how the size of effect varies on other characteristics (i.e. education level).

Marianne Bitler, Jonah Gelbach, and Hilary Hoynes (2006) estimate quantile treatment effects in a randomized evaluation of a job training program. Christian B. Hansen (2005) studies the quantile treatment effects in instrumental variables settings.

Another very famous one is the PROGRESA program in Mexico. The program provides cash benefits linked to children’s school attendance and to regular clinic attendance, as well as in-kind health benefits and nutritional supplements. A unique feature of this program is its targeting of transfers to the mother of the family. The intention to give transfers directly to the mother was motivated by the finding that resources controlled by women are more likely to be manifested in greater improvements in child health and nutrition than resources controlled by men. There are also bulks of research works on evaluating the impacts of this program. The evaluation of the program was conducted by the Mexican Federal Government and by external local and international evaluators such as the National Institute of Public Health (INSP, Mexico), Research and Advanced Studies Center in Social Anthropology (CIESAS, Mexico), International Food Policy Research Institute (IFPRI). The evaluation reports have resulted in an extensive literature

by authors like Attanasio, Meghir, and Santiago (2005), Behrman and Todd (1999), Schultz (2004), Todd and Wolpin (2003), among others.

For instance, Schultz (2004) presents an extensive evaluation of the education component of PROGRESA. The author performs pre-program comparisons to check the randomization of the design, and he calculates difference and difference-in-difference estimators by gender and grade which allow him to quantify the program's causal effect. He captures the average treatment effect. Djebbari and Smith (2008) discuss the heterogeneous program impacts of the PROGRESA program. They argue the quantile treatment effects. They find strong evidence of systematic (i.e. subgroup) variation in impacts in PROGRESA and modest evidence of heterogeneous impacts conditional on the systematic impacts.

Other papers, such as Todd and Wolpin (2003) and Attanasio, Meghir, and Santiago (2005), they follow a structural approach to evaluate PROGRESA. They can thus simulate the effects of counterfactual programs and they can identify alternative subsidy schemes with a greater impact on schooling decisions. Attanasio, Meghir, and Santiago (2005) estimate the structural parameters of a standard model of education choices that considers schooling as an individual decision. Todd and Wolpin (2003) estimate a dynamic behavioral model of parental decisions about fertility and children schooling. The water cellar program differs from The PROGRESA program where parents should balance whether to take the benefits of program by sending drop-outs to school or just to maintain drop-outs but earning wages. The water cellar program is rather simple than the PROGRESA. All the farmers in projected areas will uniformly benefit from the water cellar program and there is no decision need to be made by them. However, we could still learn many things from the literature on PROGRESA. For instance, we could also study the quantile treatment effects besides focus on the average treatment effects.

There are also many other program evaluation literature. Imbens and Wooldridge (2009), Blundell and Dias (2002), Imbens (2004) provide us perfect reviews in this literature.

Data Collection

We will adopt empirical study method to estimate the impacts of water cellar project. The China Women's Development Foundation plans to build water cellars in 51 projected

towns/villages in Gansu province and Ningxia Hui autonomous region in 2010. The CWDF chooses the 51 projected towns/villages in the two regions by following their own plans or donors' requirement.

These two regions are located in the northeastern China that is seriously hit by water scarcity. These projected villages are affected mostly by water scarcity in the two regions. The planned project implementation periods are from March to September. Given the planned project implementation periods, we plan to conduct the first wave survey from July to September in 2010. The China Women's Development Foundation commits to help us in data sampling, such as providing us the list of the benefiting household, the projected plan in the following year, and facilitating our contact with the local project organizer.

We will conduct repeat surveys. We will first randomly sample 15 projected villages among those 51 projected localities in Gansu and Ningxia regions. For these projected localities, the water cellars will be installed for all the households in these localities. Therefore, for each projected locality, we will choose a nearby locality to compose the control group.

and 15 nearby not projected localities. We have now chosen these 15 projected villages. We have also chosen

They constitute the treatment group, and the rest compose the control group. For each sampled projected localities, we will randomly survey 300 household. As for the not projected localities, we will randomly survey 300 household too. Therefore, we will have 4,500 households in either treatment or control group. If the budget allows us to do more survey, we will include more projected localities in the study.

A question, which may arise here, is what sample size is appropriate in this study. We should make power analysis to determine whether the size of the sample (4,500 households in the treatment group and 4,500 in the control group) is large enough to make statistical test powerful. The main goal of power analysis is to allow us to decide how large a sample is needed to enable detect effects of a given size in a particular situation. The bigger size the samples are, the bigger statistic power we are able to detect

the treatment effects. Since the main outcome of the interest in this study is in household income. In order to conduct the power analysis, we should first estimate how much the size of the effect we want to detect. Let's say the households with water cellars will have 15% percent more incomes than those who do not have water cellars. We have an interview with local water cellar project committees. They point out that most women at least spend 2 hours per day for fetching water in dry seasons. If the total labor hours per day of a household are 18 hours (men and women), then the water cellar project will release 2 more labor hours and increase household income by $2/16$ (12.5%). As we show before, the water cellar project not only just increase farmers' labor hours, but increase agriculture productivity by getting more irrigating water. Therefore, water cellar project will increase household income more than 12.5% and let's say 15%.

In order to do power test, we also need to estimate the variance of household income. To do that, we will interview the local government officers and consult county's statistic bureau to gather the information on the variance of household income for the villages. We also assume that the variance of household income will be the same after implementing the water cellar project. We will then simply adopt the tool provided by STATA to run power test.

We may also need an estimate of the intra-cluster correlation for household income. We have chosen 15 treatment villages and 15 control villages. These villages are different in many characteristics, such as the distance to the town, to major city, the transportation (i.e. whether there is railway or highway connecting them, the distance to the main water source, and so on). For each village, we will randomly choose 300 household in our survey. There are more than 600 households even in the smallest village among these 30. We will also consult village leader for the variance of household income of each village.

The time choice of conducting the second wave survey is crucial. If the time is too close to the first survey, the effects of water cellars may not be significant because the benefits provided by the cellars are not immediate; if the time span is too long between these two waves of survey, the effects maybe hard to seize and the estimation maybe be biased. Given the feature that farmers' income is seasonal, we therefore plan to make the second wave of the survey in one year after the first wave survey. Moreover, we will run the pre-survey before the formal second wave of the survey. With the pre-survey, we are able to

tell whether the effects of water cellars are into place before conducting the formal survey. If they are not, we will conduct the second wave of survey in the 18 months after the baseline first survey. The detail of the timing is shown in the following table.

Table II The timing of the survey, data processing, analysis and reports

Time schedule	Survey action plans
July 2010	Selection of control and treatment villages/towns
July 2010	Recruiting and training of interviewers and interviewing the local project organizer and local officers
August-September 2010	The first wave of the survey on control and treatment groups
October—November 2010	Data processing
December 2010—June 2011	Data analysis and writing interim report
July 2011	Interviewing the local project organizer and local officers
July 2011	The pre-survey before the second wave of the survey
August-September 2011	The second wave of the survey on control and treatment groups
October—November 2011	Data processing
December 2011-January 2012	Data analysis and writing final report
February 2012	Dissemination

Through surveys, we are able to collect data on those variables, such as women' incomes, women's mobility (time of working outside home), the expenditure in water related disease (such as gynecological diseases), family size, number of children, age of children, men's incomes, men's mobility dummy (migrate to cities or stay at home), women's years of education, community characteristics, and so on. As for the variables indicating women's status in intra-household relationships and women's empowerment, we can use

the following criteria: whether women can support themselves without their husbands, whether they make economic contributions to the household, whether they have assets and savings to use or under own name or control, and so on. The survey forms are attached in appendix.

Theoretical framework

In this section, we will set up a simple theoretical framework to illustrate how water cellar project affects households' income. The theoretical framework will help us understand how the effect of water cellar project to be transmitted. Among all those research questions, The question which interests us most is how much the water cellar project increases projected households' incomes. The question is very much related to other questions. For instance, the water cellar project makes women's save their labors of fetching water and therefore make them able to work outside home, and finally increase their household's incomes.

To better understand this question, we construct a very simple model that clarifies the channels of transmission of the effects water cellar project. We first decompose households' incomes to be the off-farm incomes and agriculture incomes, and other sources of incomes (i.e. governmental transfer, investment incomes). Namely, we have:

$$\text{Household incomes} = \text{agricultural incomes} + \text{off-farm incomes} + \text{other source of incomes} \quad (1)$$

The water cellar project is supposed to affect household incomes by either increasing agriculture incomes or off-farm incomes. For instance, water collected by water cellars may increase agriculture production by increasing crop yields and livestock yields and therefore increase the agriculture incomes and off-farm incomes. We assume farmers are price taker either in agriculture product market or labor market. Therefore, we have:

$$\text{Household incomes} = \text{price} * \text{agricultural production} + \text{wage} * \text{labors inputs in off-farm work} + \text{other source of incomes} \quad (1')$$

As for agriculture incomes, ff we take crop and livestock prices to be fixed and then the only matters would be the crop and livestock productions. The equations (2) specify the production functions of crop yields and livestock yields.

$$\text{Agricultural production} = f(\text{water usage, the agriculture labor inputs, other factors}) \quad (2)$$

Where the other factors in the equation include the size of farm land, fertilizer usage, and whether it is hit by natural disaster and so on. These factors are not affected by water cellar project. However, water cellar project will affect the water usage and labor input. For instance, water cellar project (small water facility) will increase the use of irrigation water; farmers can input more labors which they usually spend for fetching water.

As for non-agriculture incomes, the water cellar project affects them by inputting more labors which they usually spend for fetching water. For instance, the labors saving from water cellar projects allow them to work in city or to start a small business. Hence, the water cellar project will increase household incomes by either directly increasing water resource inputs in agriculture production or allow farms transfer the labors that spend for fetching water to the labors that input in agriculture work or non-agriculture work. The water cellar project not only affects their labor allocation but also affect the total labor hours. For instance, water cellar project may enhance farmer's health conditions and make them get more labor abilities and time. All in all, the water cellar project will make farmers put more labors in agriculture production activities and other off-farm work.

Therefore, we have the equation (3) on water usage; and equation (4) on household's total labor supply:

$$\text{Water use in agriculture} = h(\text{water cellar project, other source of water}) \quad (3)$$

$$\text{Total labor supply} = k(\text{water cell project, family size, number of children, water-borne disease, not water-borne disease, age}) \quad (4)$$

The water-borne disease in the equation (4) is in fact also a function of water cellar project. As we mentioned before, the water cellar project may improve farmers' health conditions by reducing their risk of suffering water-borne disease. After having the total labor supply equation, we then should understand how the labors to be allocated between agriculture and off-farm works. We assume that households are rational enough. Therefore, they decide whether to allocate their labors to agriculture works or to allocate their labors to off-farm works, mainly depending on the returns from each type of works. We assume the marginal returns of labor in agriculture work are decreasing but the marginal returns of labor in off-farm work are constant (i.e. constant wage rate), and in equilibrium the marginal returns of both types of labors should be equivalent. Obviously, the marginal returns of agriculture works depend on other production input factors in the

right hand side of equation (2). And therefore the agriculture labor inputs should be a function of the agriculture production input factors, wage rate and total labor supply. The off-farm labor is equal to the total labor supply subtract the agriculture labor. We then have:

The agriculture labor=l(water usage, other agriculture production input factors, wage rate, total labor supply) (5)

The off-farm labor=total labor supply- the agriculture labor (6)

We substitute (4) in (5) and then in (2), (4) and (5) in (6). It is then easy to see that the total household income is the function of water cellar project and others. The survey suggested in this proposal allows us to collect all the variables involved from equation (2)-(6). Based on them, we can estimate the equations (2)-(6), which allows us to identify to which channel the water cellar project increases household incomes.

Besides increasing household incomes, the water cellar project may also induce more children schooling which do not directly increase households' incomes. It is easy to see this effect, the water cellar project simply make children who usually fetch water at home go to school.

Estimation strategy

With these variables, for instance we can run a simple “difference in difference” (DD) regression in which we put women’s income as the dependent variable and others as explanatory variables. Through the coefficient of the dummy variable “with or without water cellars”, we can identify the impact of water cellars on women’s income. Moreover, the repeated surveys allow us to compare, for instance, the growth rates of women’s income between the control and treatment groups.

For instance, our estimation model is as follows:

$$s_{ivt} = \alpha w_v + \beta t + \delta w_v t + \eta H_{iv} + \mu X_v + \varepsilon_{ivt}$$

Where s_{ivt} stands for the dependent variable (i.e. women’s income) of household i in the village v at time t (before and after the water cellar project been implemented); w_v denotes whether the locality v is the one with water cellar project (that is a dummy variable); t is time index (that is dummy variable too); H_{iv} is the matrix of variables that control household’ characteristics (i.e. family size, farming land, education level and so

on); X_v is the matrix of variables describe the village's characteristics (i.e. local transportation). The coefficient δ captures the impact of water cellar project. Given the different assumption on the error term (ε_{ivt}), we will adopt different estimation method. We will estimate the simple OLS model, the robust model and cluster robust model. Different from the OLS model, the robust model assumes that the error term is not identically distributed. We will also estimate the model by using village cluster robust. The village cluster robust model further relaxes the OLS assumption and requires only that the observations be independent across the villages.

We should also pay attentions to the issue whether the DD method is an appropriate method of estimation. We will check whether there is the shift in trends that makes the DD estimation biased. In order to test it, for instance we will use the historical village per capita income data and the data collected from survey to test whether the treatment and control group are in the different trends.

Dissemination Strategy

As we mentioned before, we will consult China Women's Development Foundation (CWDF) and All-China Women's Federation (ACWF) for the issue of sampling data. The outcome of the research will include a technical final report and a non-technical final report on the impact of the project "Land of Love, Water Cellar for Mothers". We will hold a workshop to disseminate the research findings. We will invite gender development experts/scholars, the China's Western Development Strategy implementing office, and NGOs to attend the workshop and to hear their reactions. In particular, we will disseminate our findings to CWDF and ACWF. Our findings will help them understand what factors influence the effectiveness of the project, and how to improve the effectiveness of the projects. We will also cooperate with CWDF and ACWF to disseminate the findings to the governmental office of implementing China western development strategy. We will try to advice the governmental agency to launch other complementary projects to get women and their families completely out of poverty, for instance, building better infrastructure, improving access to clean water and public health system in the western rural areas.

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“Land of Love, Water Cellar for Mothers” Survey

(Questionnaire Number)(WCM0000-)

Interviewer: _____

Supervisor: _____ Date: _____

Start Time of Interview: _____

End Time of Interview: _____

Name of Household Head: _____

Name of Respondent: _____ Relationship to Head: _____ Phone # _____

Note: Household Members include household head, spouse, unmarried children, and other members living with the household head if they eat together.

(Year/Month)								
Questions (9) and (10) refer to the history of the person while he/she lived in the location listed in (7)								
(9) Occupation								
(10) Average annual net income (Yuan)								
(11) Previous residence (prior to the location listed in (7))								
(12) When did you move to the location specified in (11)? (Year/Month)								
Questions (13) and (14) refer to the history of the person while he/she lived in the location listed in (11)								
(13) Occupation								
(14) Average annual net income (Yuan)								
(15) Previous residence (prior to the location listed (11))								
(16) When did you move to the location specified in (15) (Year/Month)								

Note:

- (1) This table applies only to household members who are aged 28 or older. If the household head and/or spouse is under 28 then fill in the living history for that member since he/she has been 18.
- (2) For (2) above if location is where he/she was born write in "place of birth."
- (3) For (14) above, note that "annual net income" refers to all income earned from farming and raising livestock (make sure to deduct production costs but not self-consumption), off-farm wages, individual business profit, and all other incomes.

Table A-3: Information about extended family members and close social relations not living in the household.

	Father of household head	Mother of household head	Father of household head's	Mother of household head's				
(1) Still Alive?								
(2) Age (If not alive, age at time of death)								
(3) Relationship to Household Head	NA	NA	NA	NA				
(4) Gender	male	female	Male	female				
(5) Education (see code)								
(6) Occupation								
(7) Monetary and value of in-kind transfers (Yuan)								
Transfers FROM household TO this person.								
Transfers FROM this person TO household.								

- Note**
- (1) Extended family members include household head and his/her spouse's parents, adult children not living in the household, and siblings. Close social relationships mean neighbors and friends, for example, who have close monetary ties to the household.
 - (2) Maximum 8 persons. First fill in information about extended family then those with close social relationships if room. (3) For education level see code in the appendix.

A-4: The source of drinking water of the household.

The source of drinking water	Measurement of the water (tons)	Cost if any (Yuan)

B: Land, Farming, and Livestock

Note: Questions in this section are for the whole household. Unless otherwise noted the time frame is between August 1st 2006 and July 31st 2007.

B(I): Farming and forestry activities.

B1. Do you currently have land for cultivation?

(1) Yes

(2) No

B2. In the last two years (Since August 2005), how much did the household spend purchasing tools or machines for use in agricultural production?

Large durable agricultural tools or machines: _____ Yuan (List type: _____),

Small agricultural tools or machines: _____ Yuan;

B3. In addition to working on household land, has any household member been hired to work on another household's land for pay?

(1) Yes

(2) No → If No, skip to B6

B4. For those household members hired to work on another household's land, what is the total number of days worked last year?

1 _____ days 2 _____ days 3 _____ days 4 _____ days

5 _____ days 6 _____ days 7 _____ days 8 _____ days

B5. For those household members hired to work on another household's land, how much were they paid, on average, for one day of work?

1 _____ Yuan 2 _____ Yuan 3 _____ Yuan 4 _____ Yuan

5 _____ Yuan 6 _____ Yuan 7 _____ Yuan 8 _____ Yuan

B6. In the last five years has any of your land been expropriated?

(1) Yes, year of expropriation _____ (If there were multiple expropriations only answer for the most recent one, do the same for all the following questions)

(2) No → If no, skip to B1

B7. Size of land expropriated contract land _____ mu; village-owned land _____ mu; private land _____ mu;

other type of land() _____ mu;

B8. Based on your estimates, if the expropriated land could have be cultivated as usual, how much net income would you have made from the land:;

contract land _____ Yuan; village-owned land _____ Yuan; private land _____ Yuan;
 other type of land _____ Yuan;

B9. Reason for land expropriation?

- (1) For road construction.
- (2) For use in city expansion or industrial development zones.
- (3) For use by private companies.
- (4) For use by the village
- (5) Other (please specify) _____

B10. Payment received for land expropriation?

- (1) Contract land _____ Yuan; Village-Owned Land _____ Yuan; Private Land _____ Yuan; Other _____ Yuan. (If compensation was not monetary, convert to value in Yuan)
- (2) No payment, Reason: _____

B1 1. Please fill in the following table, B-1, regarding household land holdings B-1

Table B-1: Basic Information on Household Land Holdings

Land Code	(1) Type of land (see note below)	(2) Size (mu)	(3) In the next two years to expect this land to be expropriated?
1			
2			
3			
4			
5			
6			

Note:

- (1) In "(1) Quantity Raised" do not include animals that have not yet produced any economic benefit.
- (2) In "(3) Income from selling" include the income earned from selling babies and eggs of animals.

B14. In your raising of livestock or fish, did you hire any non-household members (including all activities listed above)? (1) Yes, number of workers hired _____, Total wages paid _____ Yuan (2) No

B(III): Individual/Household business

B15. Does anyone in your household run an individual business (such as grocery store, restaurant, hotel, taxi service)?

- (1) Yes
- (2) No → If No, skip to part C

B16. If yes, who owns the business?

- (1) Household or household member (s)
- (2) Partnership with member outside the household, equity share _____ %
- (3) Contracted to run the business
- (4) Other (please specify) _____

B17. What type of business is it (e.g. grocery store, restaurant, etc.) ? _____

B18. Which household member(s) work for the business? List household member code(s) _____

B19. Does the business employ any individuals not included in the household?

- (1) Yes: Number of people hired _____, Total wage paid last year _____ Yuan;
- (2) No

B20. Net (after tax) income from the business last year? _____ Yuan (If contracted, deduct the contract fee paid to the owner of the business)

(4) Financial investment income (including dividends and/or capital gains from stocks and/or mutual funds, interest earned on bank deposits, etc.)									
(5) Minimum Rural Living Standard Subsidy									
(6) Subsidy for One Child Household									
(7) Other government subsidies									
(8) All Other income (Please specify)									

Notes:

- (1) Income counted in parts B and C, such as direct subsidy for main crop production or farmers' off-farm work income, should not be included in this table.
- (2) Report annual income in all items except (1) and (2).

D2. Major durable goods, assets, or large value holdings (quantity and value):

- (1) Car (No. _____) Total Value _____ Yuan
- (2) Motorcycle (No. _____) Total Value _____ Yuan
- (3) House (No. _____) Total Value _____ Yuan
- (4) TV (No. _____) Total Value _____ Yuan
- (5) Air conditioner (No. _____) Total Value _____ Yuan
- (6) Washing Machine (No. _____) Total Value _____ Yuan
- (7) Tractors and/or other large agricultural machinery. (No. _____) Total Value _____ Yuan
- (8) Other valuables _____ Yuan

D3. What are your household's total financial assets, including banking deposit, stocks, mutual funds:

- (1) Below 500 Yuan

- (2) 500-1,000 Yuan
- (3) 1,000-5,000 Yuan
- (4) 5,000-10,000 Yuan
- (5) 10,000-50,000 Yuan
- (6) 50,000-100,000 Yuan
- (7) More than 100,000 Yuan

D4. Please fill in the following table, D-2, regarding cash expenditures by the household: :

Table D-2: Household cash expenditure (Yuan) (for the previous month, not including consumption expenditures of those outside home county)

	(1) Food	(2) Housing	(3) Transportation	(4) Cigarettes	(5) Alcohol	(6) Gas, Electricity, or Coal	(7) Clothing	(8) Make-up and Jewelry	(9) Medical Expenses	(10) Education costs (only for Children)	(11) Gifts	(12) Other Expenditures	(13) Borrowing and Lending		(14) Change in Bank Balance	
													B	L		
1 Household head																
2 Spouse of Household head																
3																
4																
5																
6																
7																
8																
Household Expenditure (unable to be broken down)																

D5. Please fill in the following table, D-5, regarding time allocation of labor:

The head of household		The spouse of the head of household		Children		Others if any	
(1) Type of labor use	(2) Hours spending	(1) Type of labor use	(2) Hours spending	(1) Type of labor use	(2) Hours spending	(1) Type of labor use	(2) Hours spending

E: Children's education

E1. Were any members of the household in school last semester (2007/3-6), not including adult education?

(1) Yes

(2) No → If No, skip to F

E2. Please fill in the following table, E-1, regarding children's education:

Table E-1: Basic information regarding children's education in the previous semester.

F3. Fill in the following table, F-3, regarding cigarette and alcohol consumption of household members: :

Table F-3: Information regarding cigarette and alcohol consumption (based on the previous month's consumption)

Household member code	(1) Cigarettes		(2) Alcohol			
	Daily amount (number/day)	None	Chinese white wine (high alcohol content) liang/day	Chinese White wine (low alcohol content) liang/day	Beer (bottles/day)	Red wine or other alcoholic drink
1						
2						
3						
4						
5						
6						
7						
8						

Note: In (2) the amount of red wine or other alcoholic drink needs to be converted into the equivalent amount of Chinese white wine (high alcohol content).

English Note: One liang equals .05kg, which is approximately .05L

F4. Fill in the following table, F-4, regarding diseases and water-borne diseases: :

Household member code	Diseases in recent three years			
	Type of Diseases	Duration	Expenditure in cure	Cure or not
1				
2				
3				
4				
5				
6				
7				
8				

G: Women Empowerment in Intra-household Relation

G1: Who makes decisions on different family matters in your household. Who decides

Table G-1

	<i>me</i>	<i>husband</i>	<i>both</i>	<i>do not know</i>	<i>no answer</i>
<i>when and where to go for immigration (work)</i>	1	2	3	4	5
<i>your getting a job</i>	1	2	3	4	5

<i>borrowing money</i>	1	2	3	4	5
<i>buying a new TV or refrigerator or other appliance</i>	1	2	3	4	5
<i>children's level of education; drop out school or not</i>	1	2	3	4	5
<i>having another child</i>	1	2	3	4	5

G2: Do you talk to your husband before you buy

(1)clothing for yourself

1 yes 2 no 0 do not know

(2)clothing for the children

1 yes 2 no 0 do not know

(3)furniture

1 yes 2 no 0 do not know

G3: Does your husband help with the housework?

1 a lot

2 a little

0 not at all

3 do not know

X no answer

G4. Does your husband help with the child-care, for example:

Table G-2

	<i>often</i>	<i>occasionally</i>	<i>never</i>	<i>do not know</i>	<i>no answer</i>
<i>putting children to bed</i>	1	2	3	4	5
<i>playing with children</i>	1	2	3	4	5
<i>helping with the homework</i>	1	2	3	4	5

Village local characteristics

Province_____

City_____

Coordinator: Latitude_____ Longitude_____

Average temperature in summer _____ in winter_____

Average rainfall_____

Whether there is disaster in recent three years____; what kinds of disasters_____

Total population_____ Total number of household_____

Income per capita _____

Distance to the major city_____

Distance to the river closed by____; Distance to the other water resource_____

Distance to the highway closed by____; Distance to the other types of transportation_____

Whether there is local women organization_____