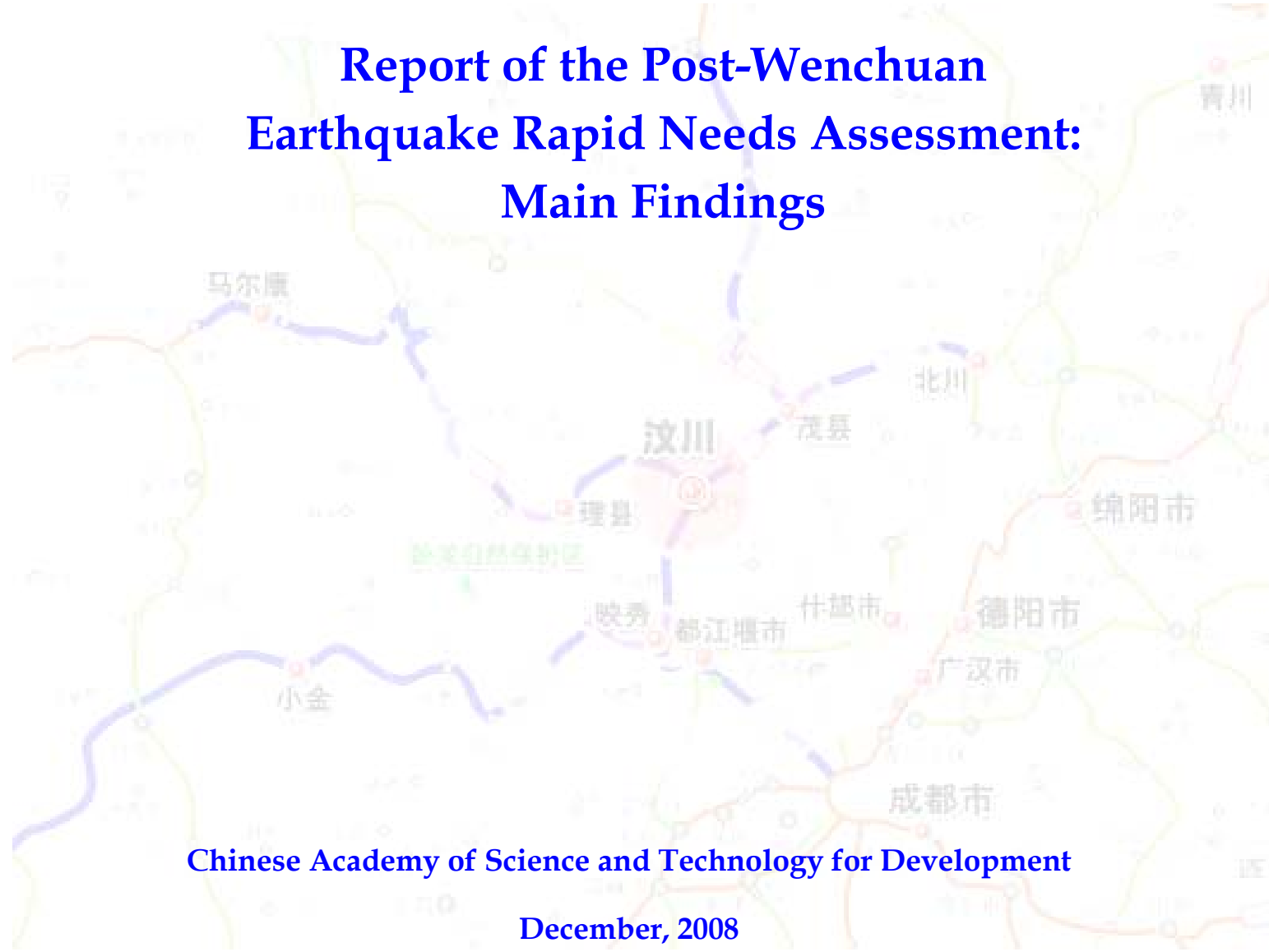




# Report of the Post-Wenchuan Earthquake Rapid Needs Assessment: Main Findings



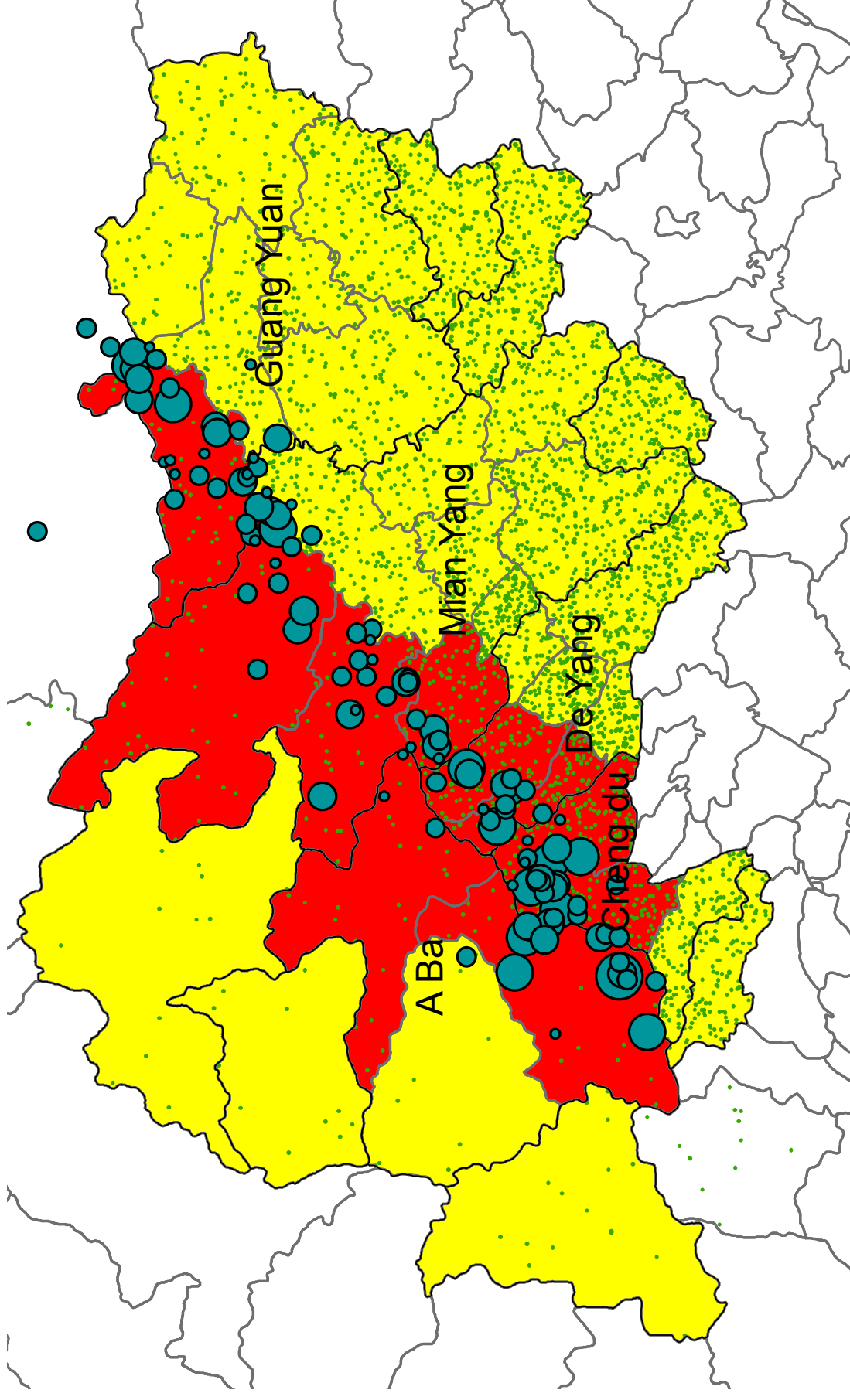
Chinese Academy of Science and Technology for Development

December, 2008



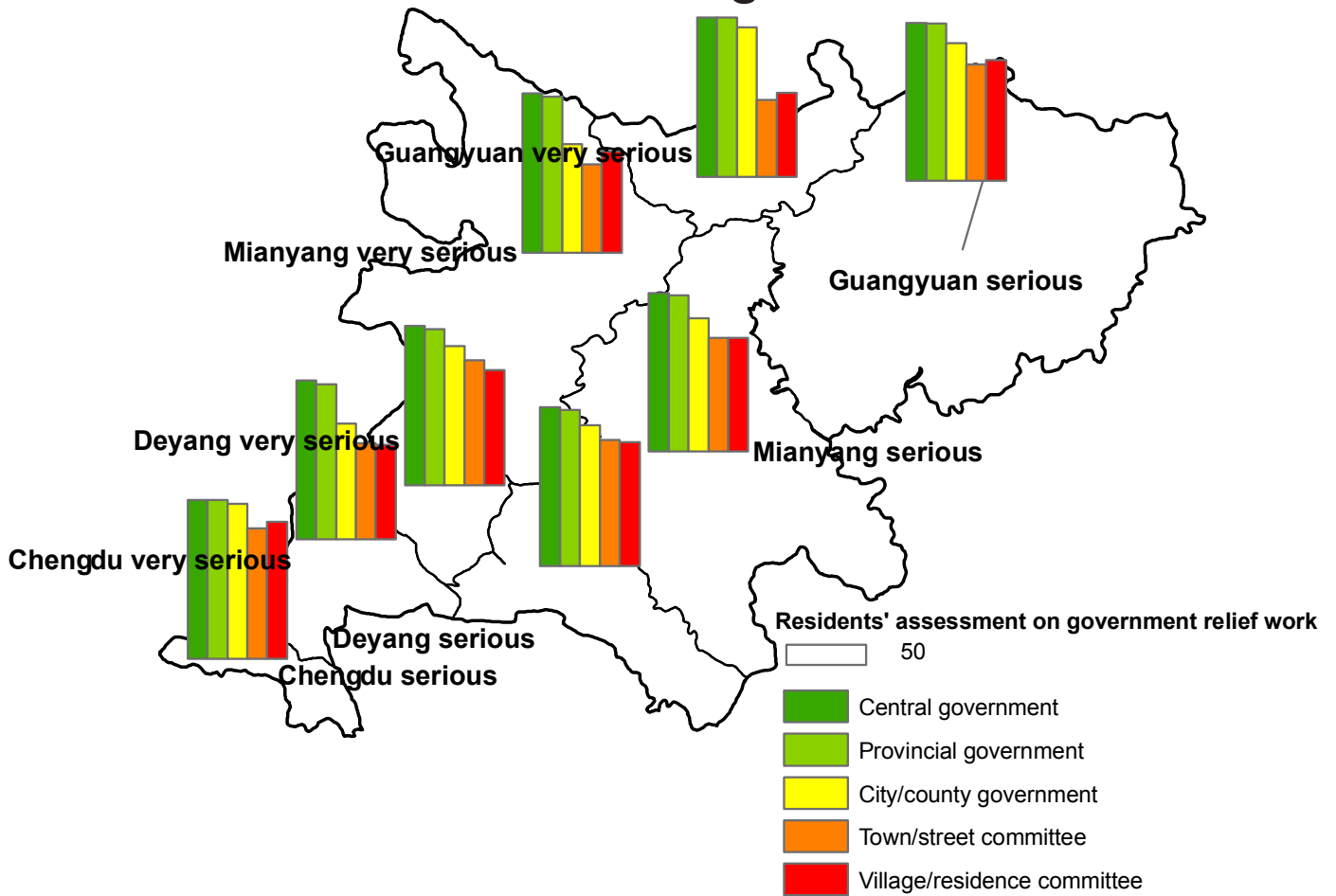


# Earthquake epicentre and population density in Sichuan

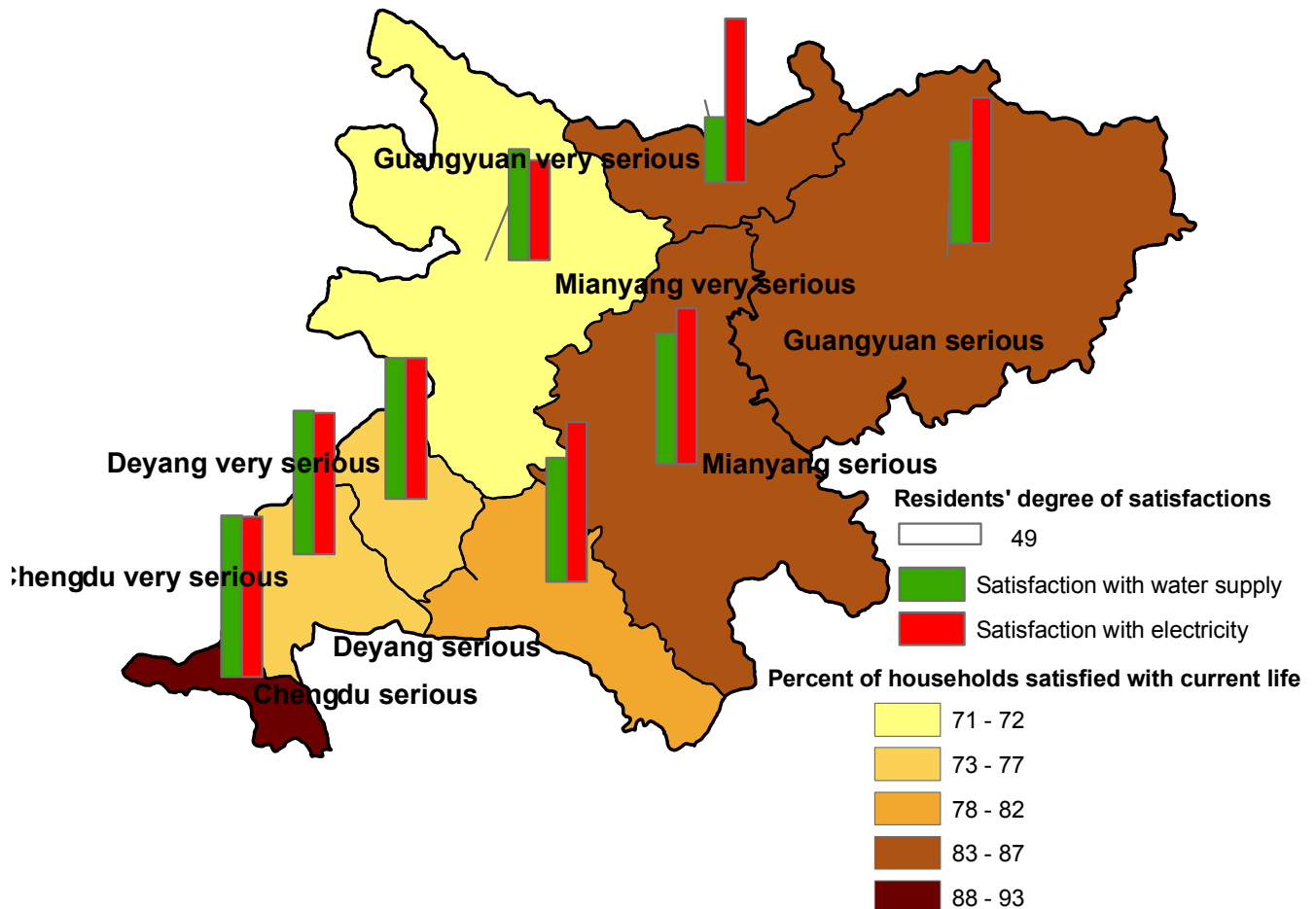


Green small dots represent population settlements, and blue big dots represent earthquake epicentre. The yellow areas are seriously damaged disaster areas, and the red areas are very seriously damaged disaster areas.

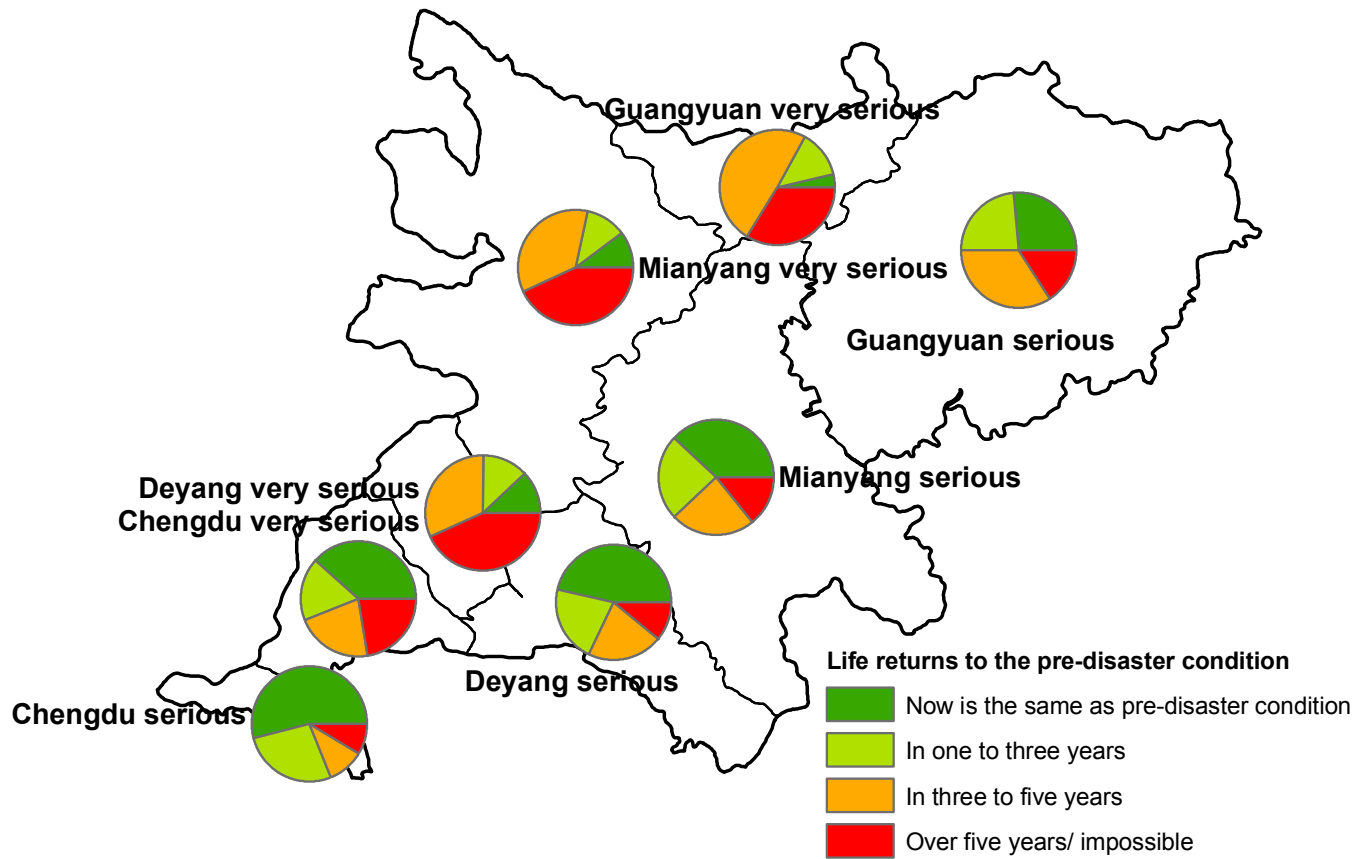
# Residents' assessment of government relief work



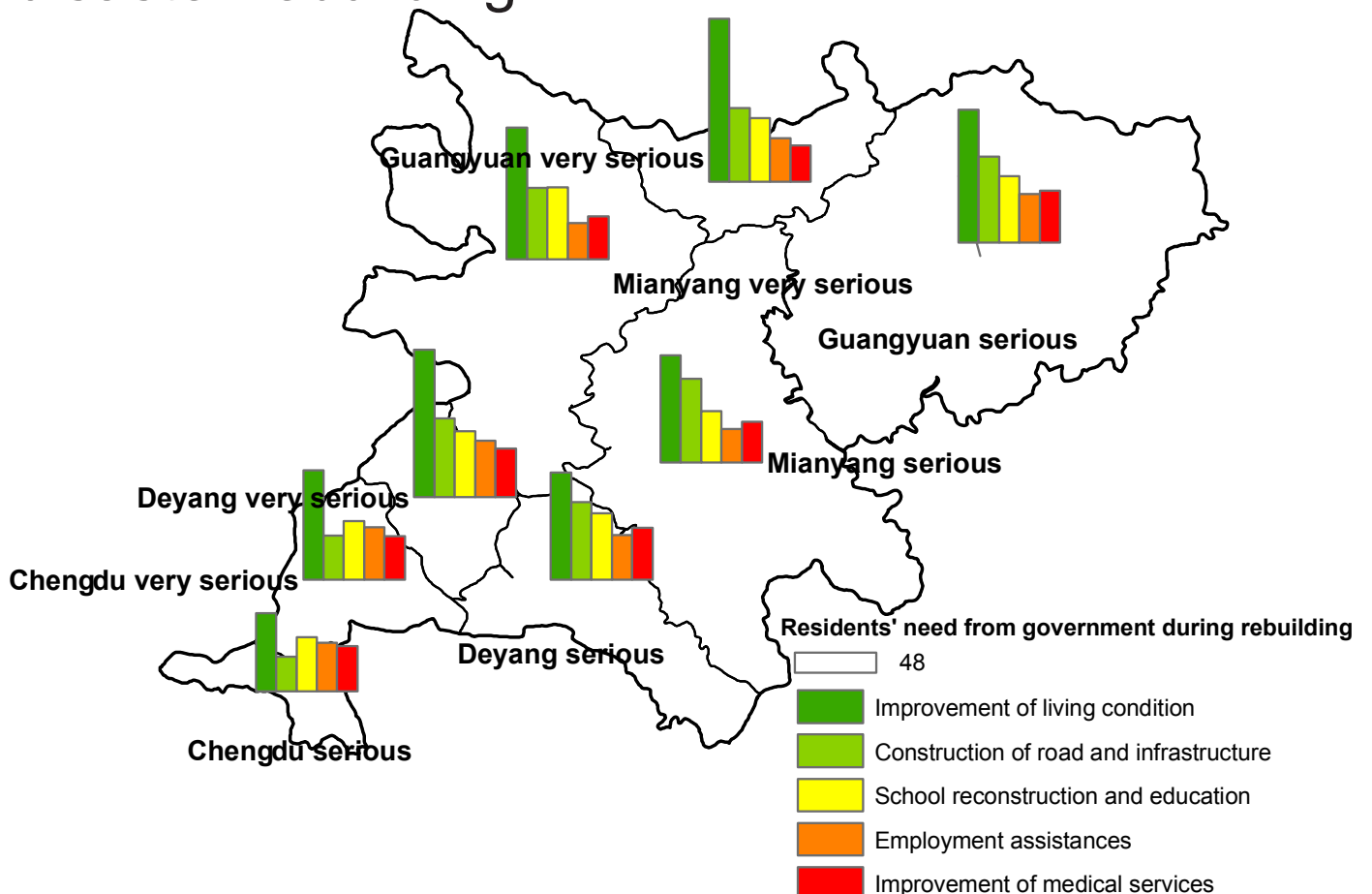
# Residents' degree of satisfactions with current life



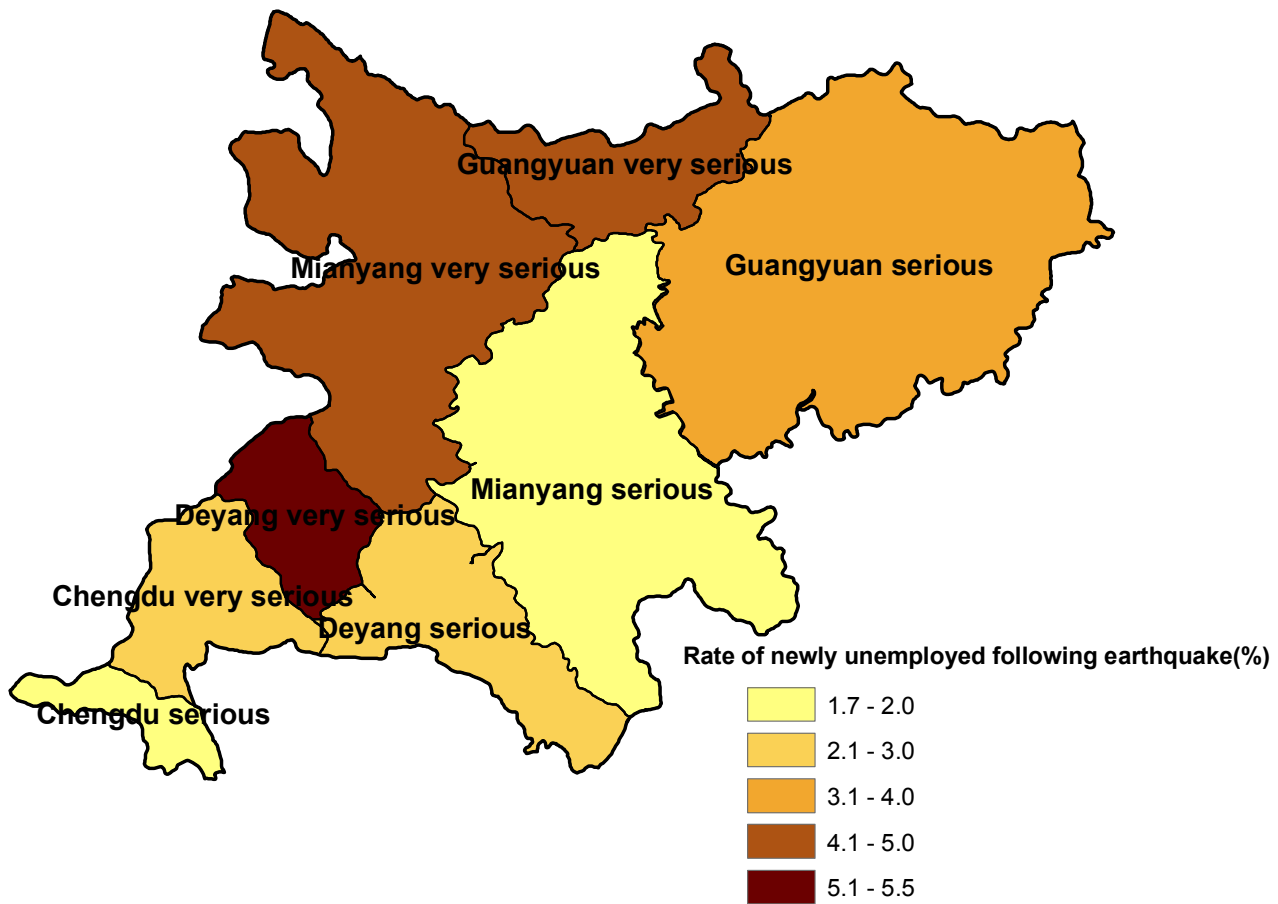
# Residents' expectations regarding future life



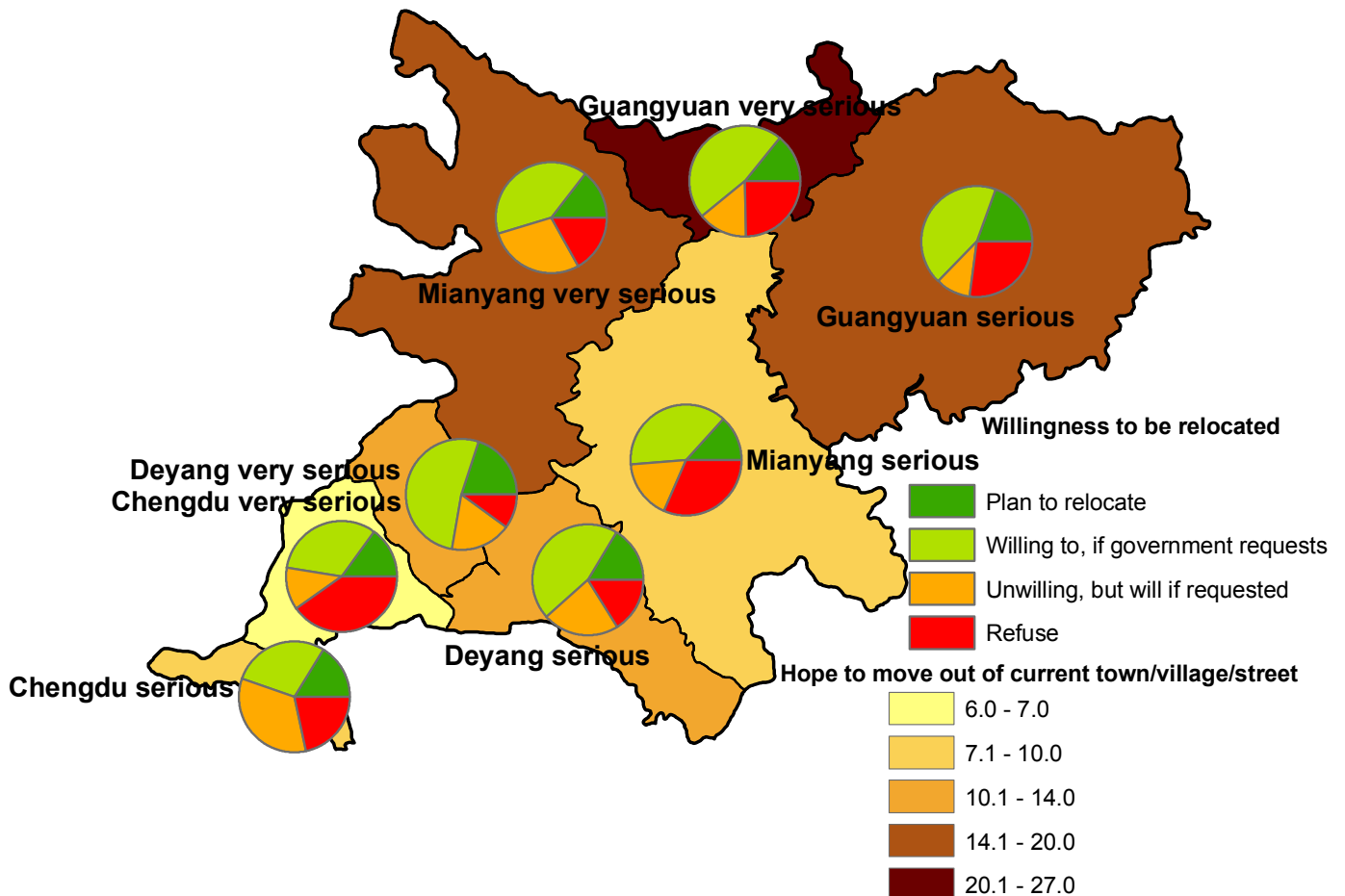
# Residents' need from government during post-disaster rebuilding



# Rate of newly unemployed following earthquake

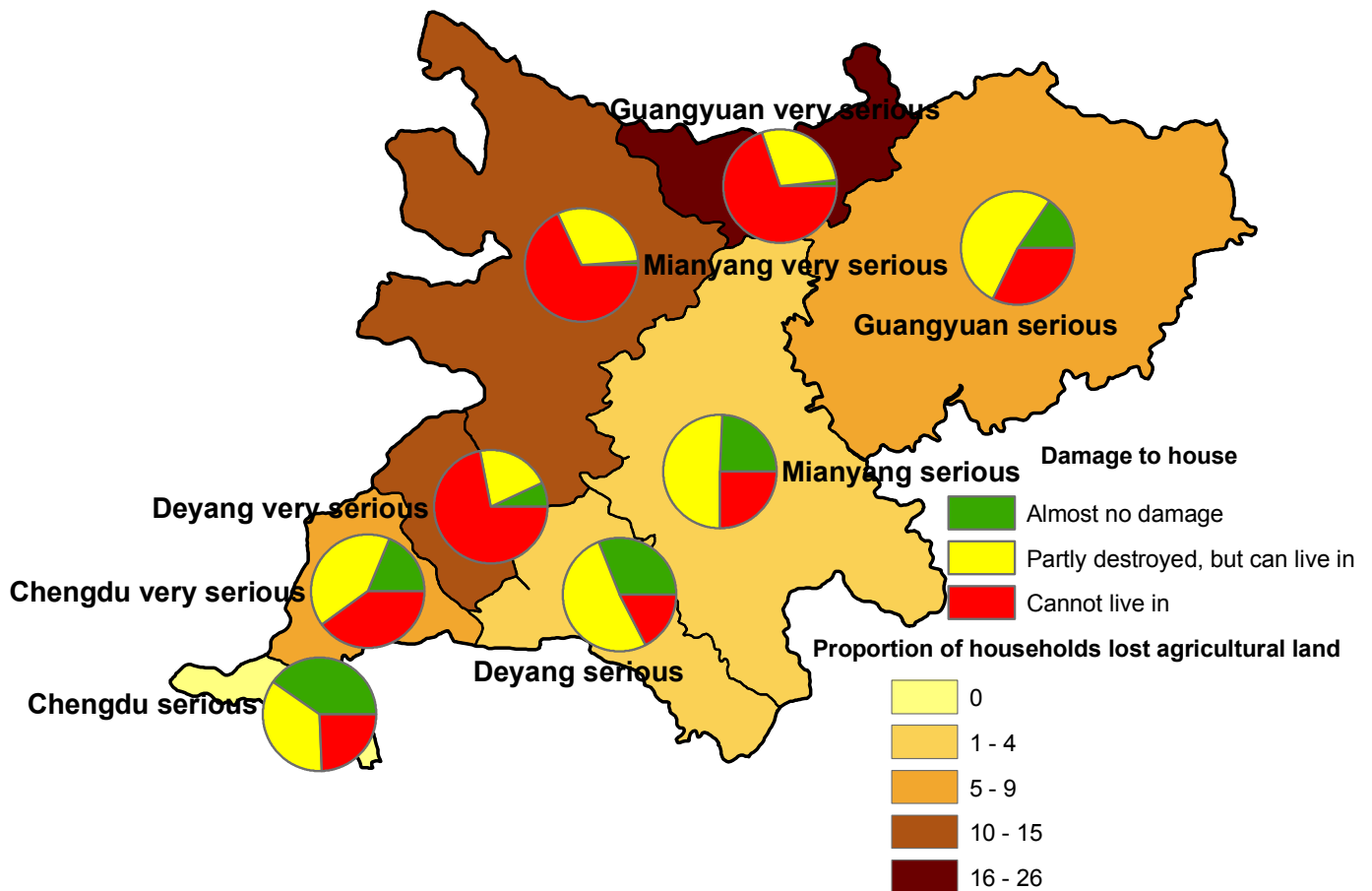


# Willingness to be relocated

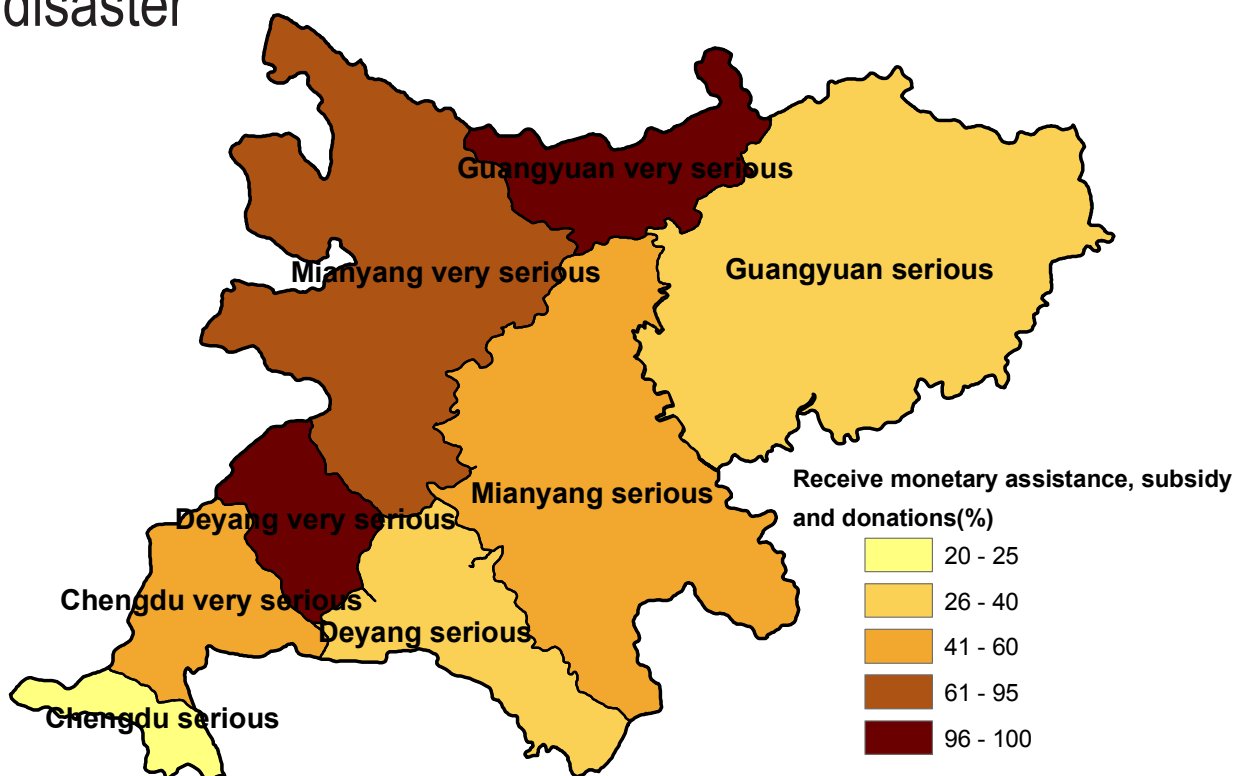




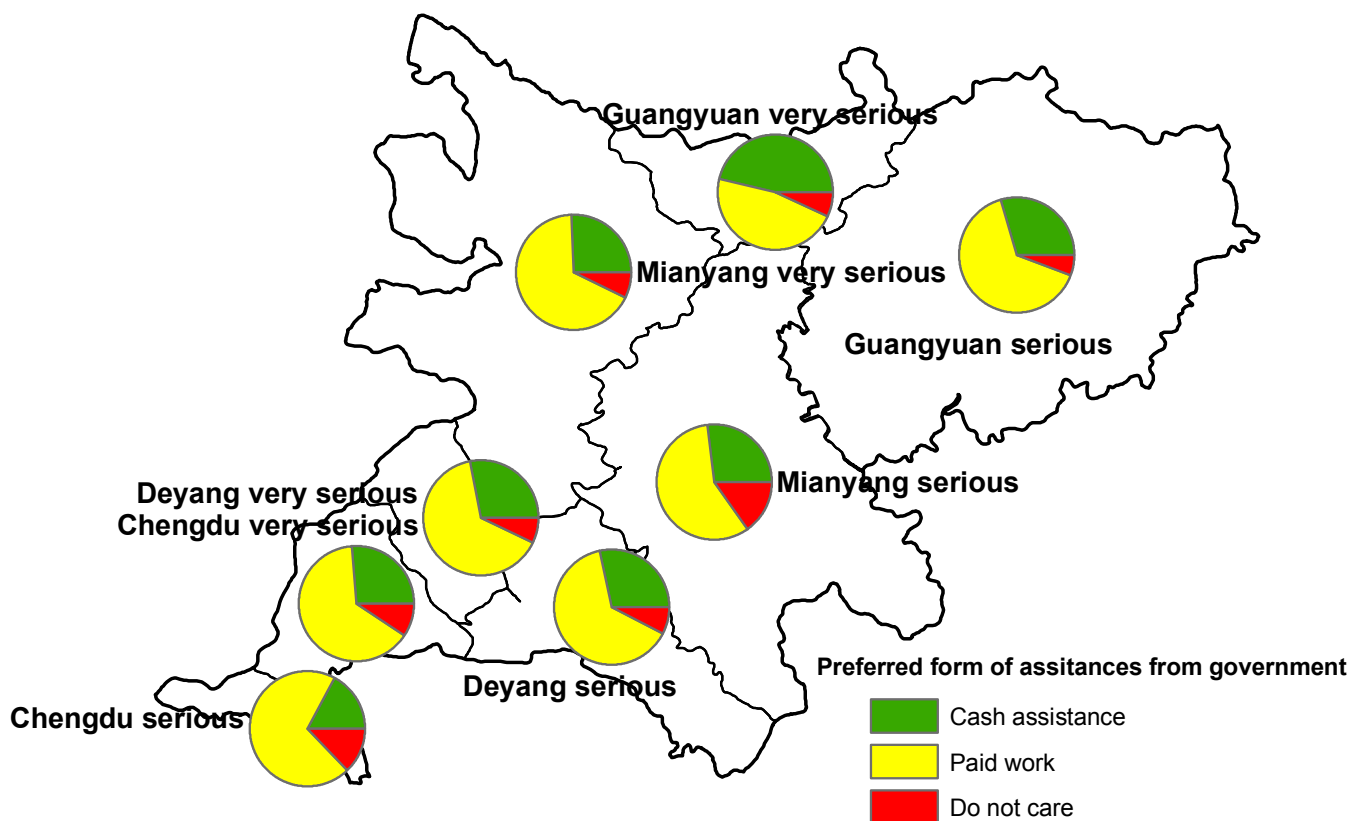
# Loss of agricultural land and damage to house



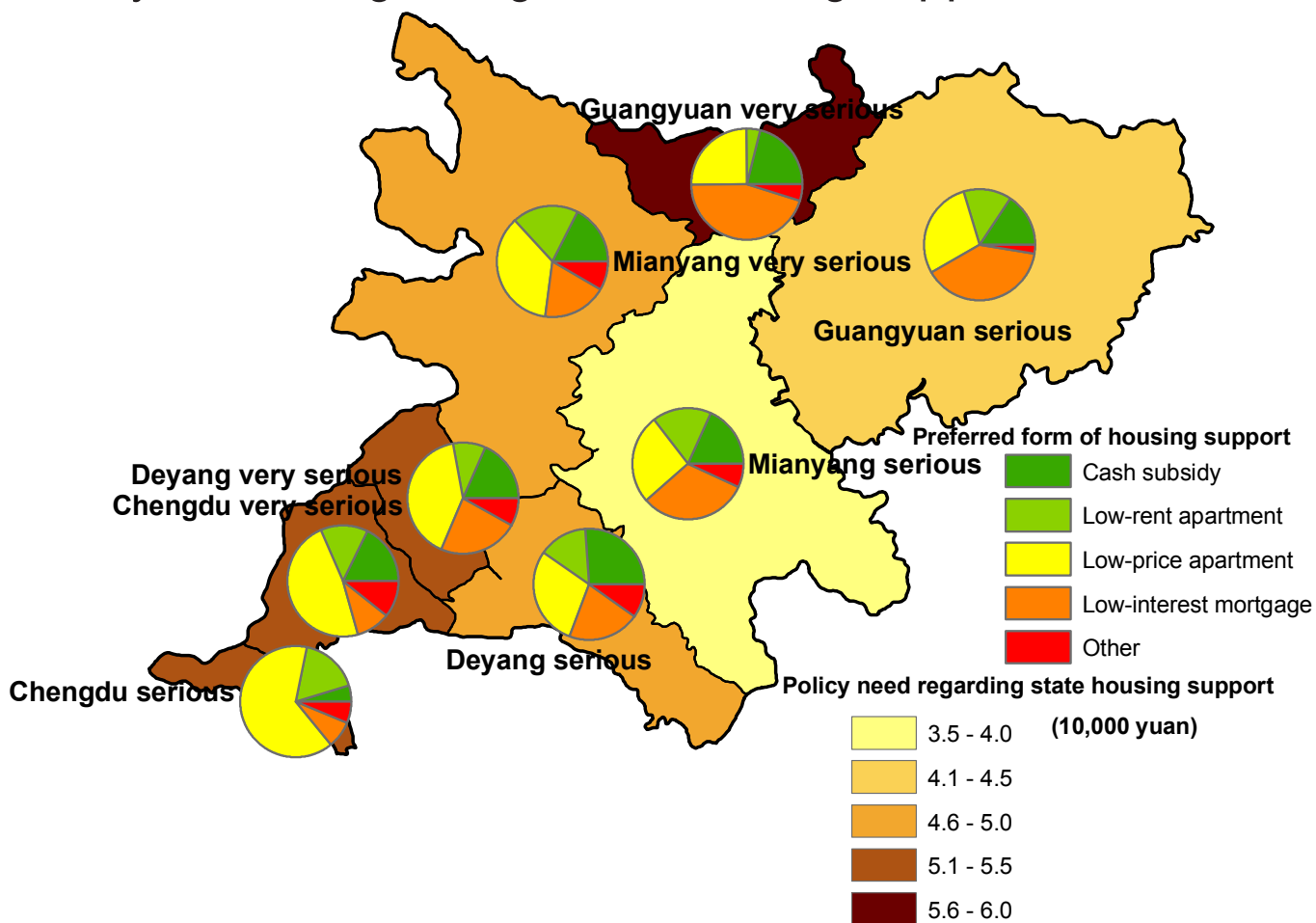
# Monetary assistance, subsidy and donations received after disaster



# Policy need on the form of assistances from government

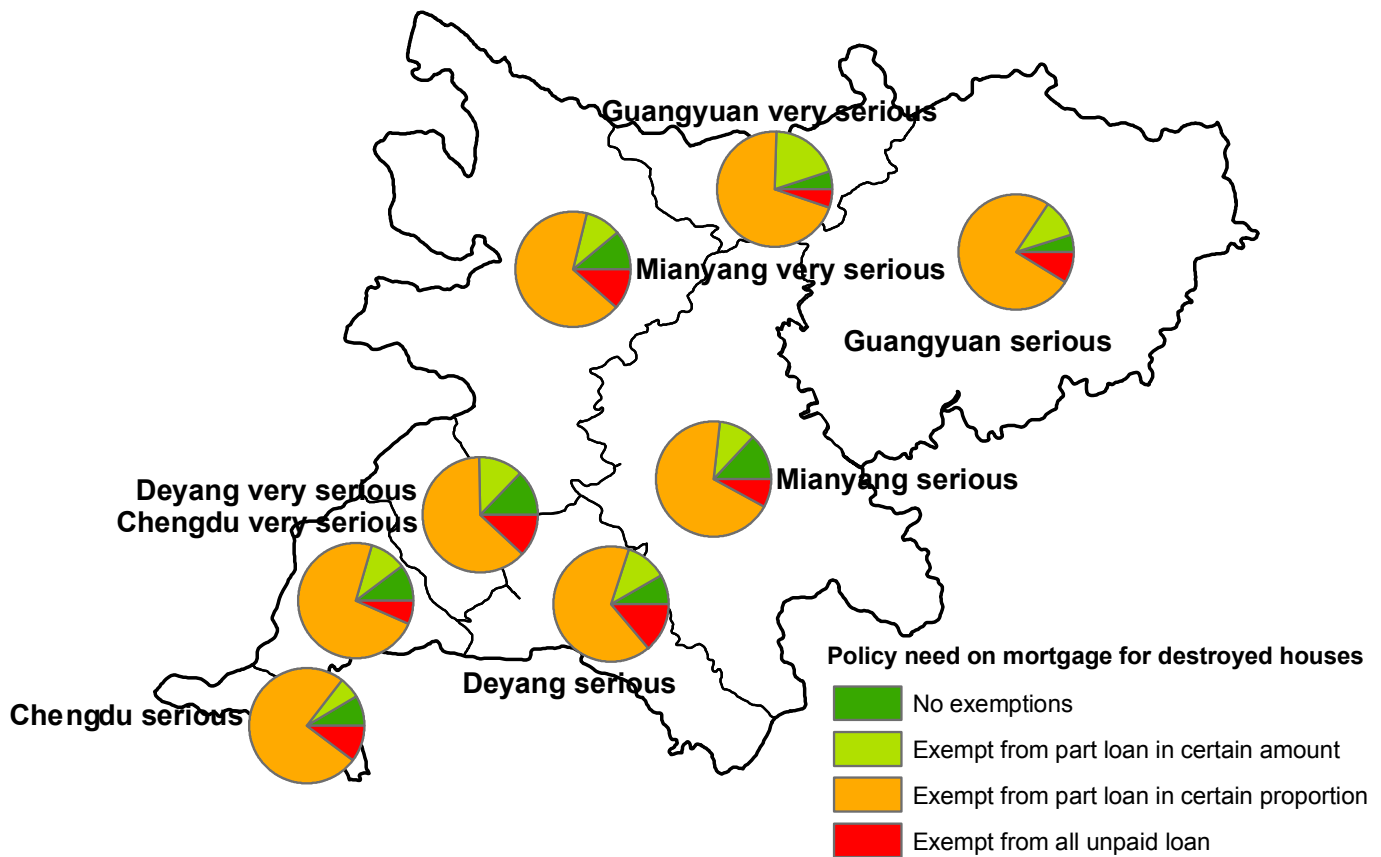


# Policy needs regarding state housing support

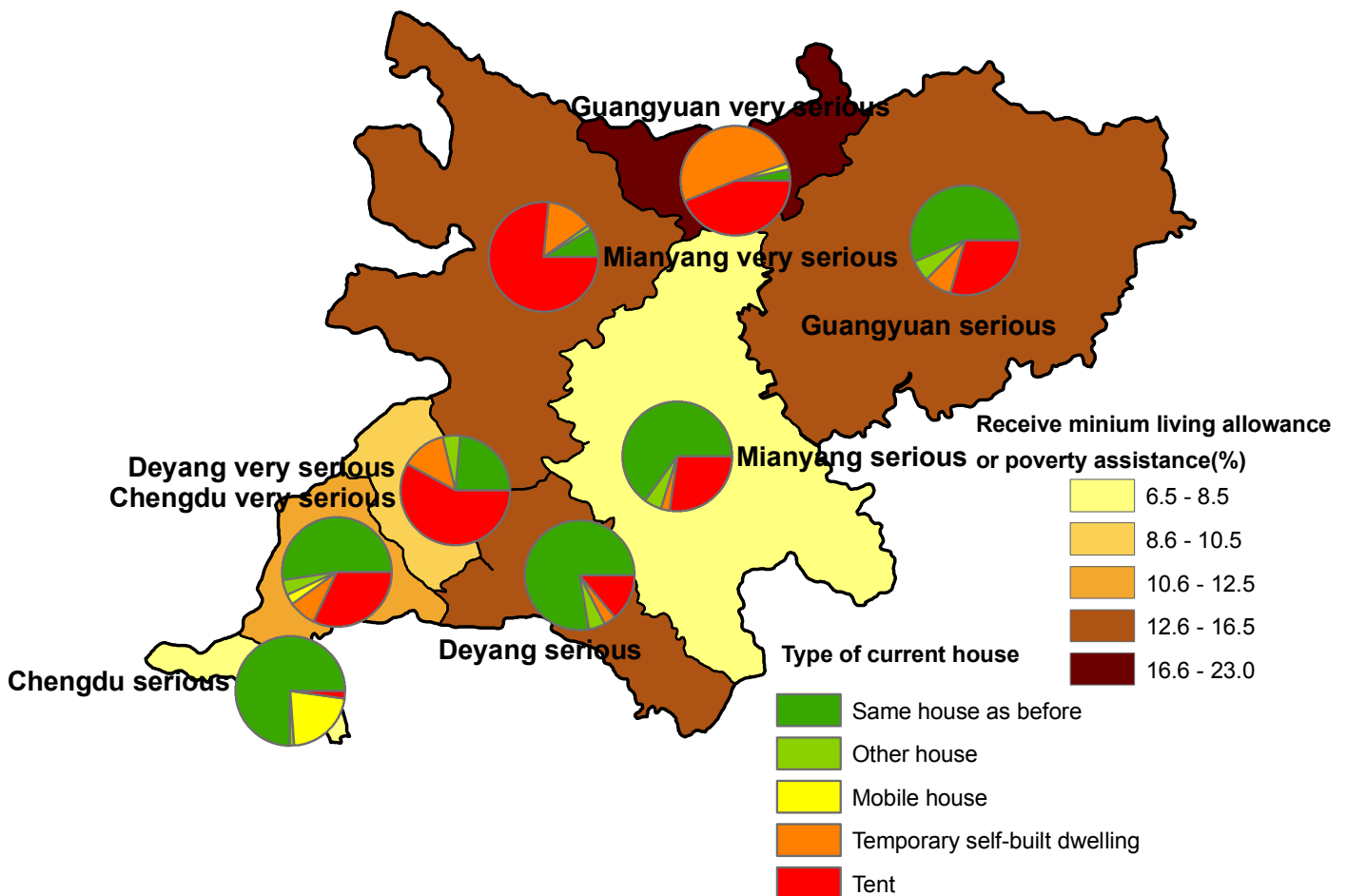




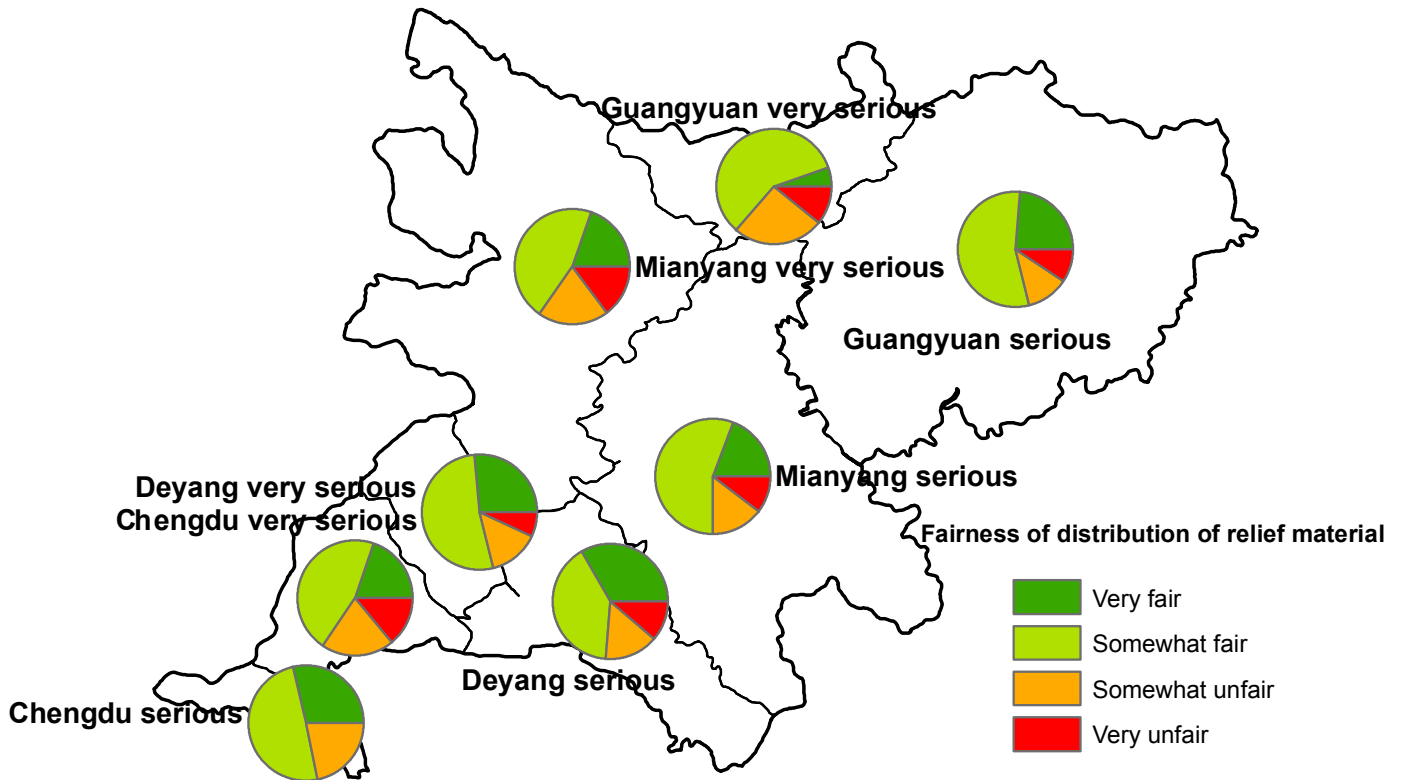
# Policy need on unpaid mortgage for destroyed houses



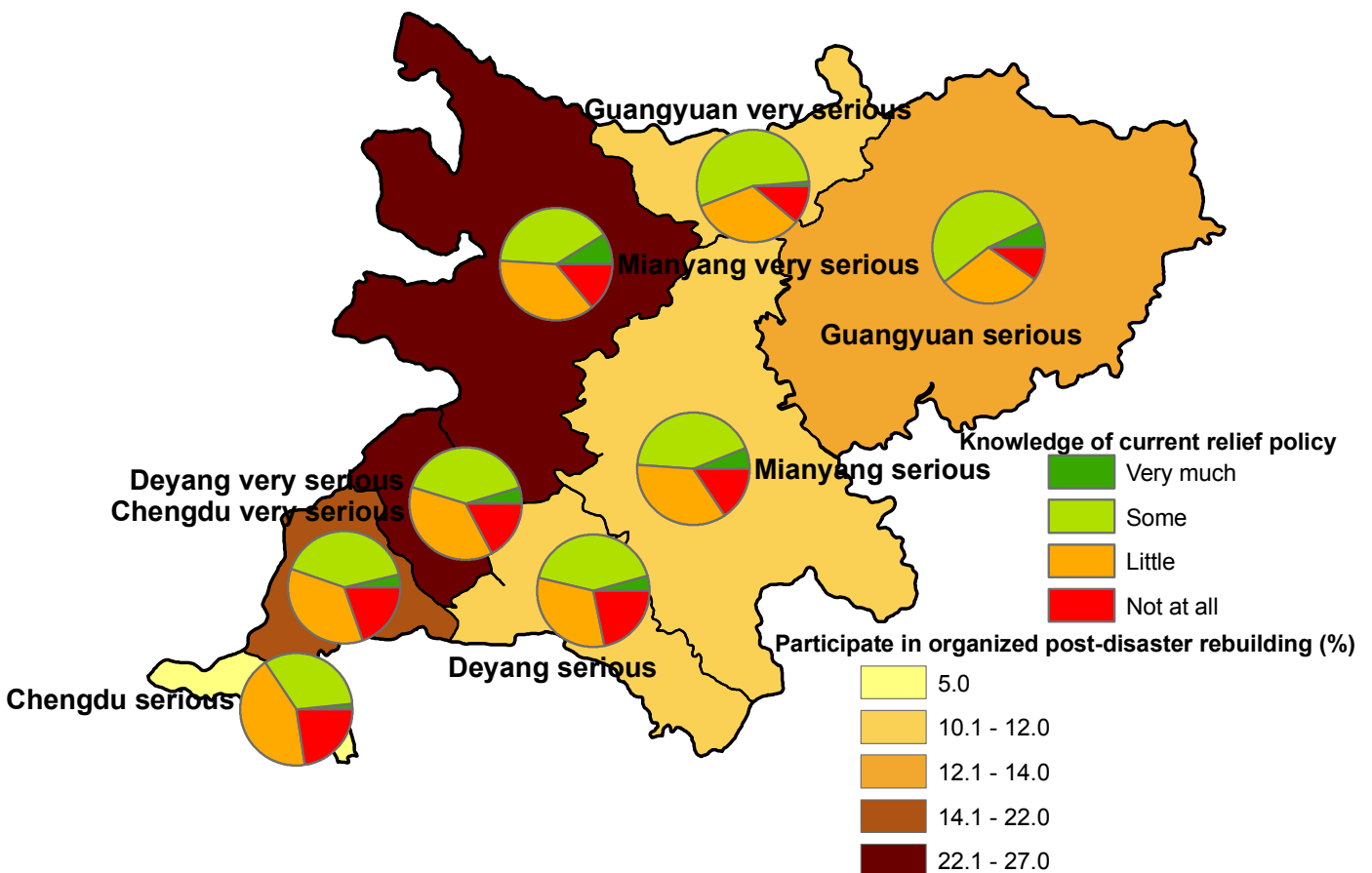
# Type of current house and the pre-disaster poverty level



# Assessment on the fairness of distribution of relief material



# Knowledge of current relief policy and participation in organized post-disaster rebuilding



# Acknowledgements

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# **The Living Conditions and Policy Needs of the Disaster-affected Population in the Wenchuan Earthquake Stricken Area**

“Post Wenchuan Earthquake Rapid Needs Assessment” project team

A major earthquake measuring 8.0 on the Richter scale hit Wenchuan County of Sichuan province at 14:28:04 on 12 May 2008. Its strength and its catastrophic impact made it among the strongest recorded in the history of China as well as in the world. The Wenchuan earthquake had a shallow hypocenter and high intensity. After the earthquake, tremors were felt in many provinces. The seriously damaged area included more than 100,000 square kilometers. The disaster involved several provinces and the counties of Beichuan, Shifang, Mianzhu, Wenchuan and Pengzhou were the most seriously hit. Secondary disasters that were caused by the earthquake such as landslides, mud-rock flows, a barrier lake and so on seriously threatened people’s lives and property, increasing the difficulties of the rescue work. These factors made this earthquake the most disastrous in Western China since 1949. According to statistics, up to September 8<sup>th</sup>, 2008, 69,226 people were confirmed to have been killed in this earthquake, 17,923 are missing and 374,643 have been injured. The direct economic loss amounted to 845.1 billion yuan.

After the earthquake, the government and all circles of society responded rapidly, taking an active part in the relief work. On the day when the disaster hit, Prime Minister Wen Jiabao made a personal appearance in the affected areas to direct the relief work. Thereafter, national leader Hu Jintao visited the affected areas and directed the relief and rebuilding work. The concepts of “taking the people as the foremost” and “people’s lives are above all else” are reflected in all the relief activities of the government. In order to promote the resettlement of the people in the disaster areas and restoration and reconstruction work, on September 23<sup>rd</sup>, The General Office of the State Council announced “The overall planning for post-Wenchuan earthquake restoration and

reconstruction”, in which it is planned that over a period of three years 1000 billion yuan will be spent to complete the major tasks of the restoration work in the seriously affected areas in Sichuan, Gansu and Shanxi. The plan aims at making the basic living conditions and economic and social development reach or even go beyond the levels before the earthquake, making great efforts to make the affected areas into harmonious and safe new homelands for people to live in peace and enjoy their work, where ecological civilization is improved. “The General Plan” is a guidance document of the restoration and reconstruction in the affected areas. At present, under the direction of “The General Plan”, the different kinds of restoration and reconstruction work are being done quickly and orderly. The measures that our government has taken in relief work have settled the affected areas down, having reduced the loss to a maximum extent and secured people’s life in the affected areas. Therefore, the government enjoyed a unanimous praise from people in the country and also in the rest of the world.

During the development of “The General Plan”, in order to improve understanding of practical living conditions in the affected areas; the policy needs, and to provide a solid data basis for the planning group; and to guarantee the planning work to be scientific and democratic; Chinese Academy of Science and Technology for Development (CASTED) was commissioned to develop a rapid needs assessment. This report makes a brief introduction to the main findings in this rapid needs study.

Rapid needs assessments are a new type of research technology and method developed internationally through the practice of disaster relief and post-disaster reconstruction in recent years. It is a method of obtaining basic information concerning the people who need aid in a rapid and accurate way under difficult circumstances (such as disaster or war). The purpose is assisting aid planners and external rescuers to learn of the present conditions and needs of the people who need help, and inform the emergency rescue operation and reconstruction aid work. People in the affected areas lost their families and basic means of production and means of livelihood and they were in a dire need of external aid. In order to help them to restore their normal life, the first task of the government and society is to understand who needs aid most, what kind of aid is needed, and what the people in the affected areas considered and needed for the aid and reconstruction work. When such information is obtained, the aid and reconstruction work can be more specific and more effective.



On the whole, the main content of rapid needs assessment includes the following three parts:

First, to map the resources of the earthquake-affected population, including material resources such as the remaining property, aid received as well as non-material resources such as health, education, labor, social relations and so on. The main purpose is not to make assessment of the disaster loss, but to understand what resources that the quake-affected people still have, as a starting point of formulating reconstruction plans.

Second, understand the main needs of the quake-affected people. This is the key content in rapid needs assessment. What do the quake-affected people need most at present? How many of the quake-affected people lack of basic means of living? What are their opinions and expectations for the aid? All such questions must be answered by the quake-affected people themselves. The needs of the quake-affected people are the most accurate guide for aid and reconstruction work, and can help us to focus on the areas and group of people who need aid in the most accurate and prompt way, and help us to identify guide the aid work and make it more specific, so as to develop the relief and reconstruction work more accurately and more effectively.

Third, understand the opinions of the quake-affected people on future reconstruction and development. The reconstruction work in the affected areas is not only a process of external aid, but also a process in which the earthquake victims take active parts. The active cooperation from the population in the affected areas can not only increase the efficiency of the reconstruction work, but also can help avoid the probable problem of unequal distribution of benefits. Therefore, the advice and suggestions of the quake-affected people on reconstruction must be fully taken into consideration in planning reconstruction work. Through the rapid needs assessment, we can make a comprehensive and systematic overview of the earthquake victims' opinions on reconstruction and take it as an important reference to post-disaster planning.

Through the rapid needs assessment, we can make a comprehensive and systematic collection of the quake-affected people's needs, thus giving the reconstruction work a scientific basis and the reconstruction work efficiency will undoubtedly be increased. The needs of the quake-affected people are all-directional and multi-layered. There are also differences between groups. For example, a self-employed individual, whose shop and house were totally damaged, and a farmer, whose house was lost but whose land was retained, may be in quite different conditions, and their responses to the measures that the government takes would be different. Thus, there should be

differences in what aid they receive. Only after we understand the characteristics and needs of different groups of people can we effectively conduct the reconstruction work. Seen from the viewpoint of the implementation and management of the reconstruction work, owing to the lack of comprehensive needs information, the problem that the people in great need do not receive enough aid often occurs, while the aid materials in other areas pile up as mountains, causing waste and new unequal distribution. So some experts think that compared with the cost of rapid needs assessment, the loss that results from aid waste and inefficiency owing to the lack of information is much larger.

What is equally important is that rapid needs assessments enable the decision-makers to understand the advice and suggestions of the quake-affected people more accurately and they can bring this knowledge into reconstruction planning. In this way, the affected people can take part in the post-disaster reconstruction work with the identity of the masters, and not accept the external aid passively. Moreover, the rapid needs assessments can also provide a communication channel between rescuers and the rescued. At the same time when the information of the quake-affected people is given to the rescuers, assessment researchers go to visit communities and families to do surveys, and they can also provide information that the government and the society hopes to be spread to the rescued. To sum up, the rapid needs assessment can effectively improve both the scientific aspect and the democratic aspect of the post-disaster planning.

At present, rapid needs assessments have been widely used in international post-disaster reconstruction and has played a positive effect. But in China, the practice in this field is still in a blank state.

In early July, 2008, commissioned by the national technical department, a research group from Chinese Academy of Science and Technology for Development (CASTED) made a large rapid needs assessment in the earthquake affected areas of Sichuan province. This was the first time in China for the method of rapid needs assessment to be used in such a large scale. This research applied the method of probability sampling. The sample households which were picked at random were asked to answer the questionnaires. On-the-spot investigation was developed during 7th to 19th in July. It covered the affected cities of Chengdu, Deyang, Mianyang and the 24 affected counties (cities and districts) in Guangyuan city; of them, 8 extremely seriously affected counties (cities and districts), 18 seriously affected counties (cities and districts). It is designed to

randomly sample 174 residential spots (villages, neighborhood committee, urban communities or settlements). The data involve nearly 20,000 items of personal information, from which can be generalized to an earthquake affected population of 13 million. It was possible to gain access to 144 communities; 4526 households were sampled, but data from 3652 households were successfully obtained through visiting and interviews. The rate of successful visiting and interviews was 80.7%.

This study made full reference to the theory and method of “rapid post-disaster needs assessment”. The first feature of the method is its rapidity; the whole study took less than a month from design to completion. The second feature is its scientific nature; the study applied the method of probability sampling, ensuring that the households which were picked at random could fully represent all the residents in the affected areas. Moreover, the scientific research design also ensured that the study could collect the information accurately. The third feature is the clear policy orientation. The main purpose of the study was to serve the formulation of “The General Plan of Restoration and Reconstruction Work in Wenchuan After the Earthquake” and to provide a solid data basis for the planning. The results of the study directly served the decision-making, resulting in a positive policy effect.

In the following sections of this report, we make a description and analysis of the living conditions and policy needs in the affected areas as revealed by the study. It should be emphasized that the data in this report reflect the situation at the time when the study was made, that is to say the basis situation of nearly two months after the earthquake. As reconstruction is being orderly developed in the affected areas, there would be great changes in the situations in the affected areas and we will monitor these changes in future studies.

## **1. Housing problems and related policy needs**

### **1.1 One third of the households had their houses destroyed or so badly damaged that they could not be inhabited**

In the 24 affected counties (cities and districts), 32.6% of the households' houses were destroyed or so badly damaged that they could not be inhabited any more; 45.4% of the households' houses

could still be inhabited, but were to some extent damaged; only 22.1% of the houses were not damaged at all. In extremely seriously affected areas, the rate of households with collapsed or badly damaged houses is as high as 58.5%, only 9.9% of the households' houses were not damaged at all.

It's worth noting that houses of rural families with relatively poor economic conditions were damaged more often than those of other families. The housing for such families needs more attention from the government in the reconstruction.

### **1.2 A prime policy need of most affected people is to resolve the housing problem.**

When asked "in the coming years of reconstruction, what is the most important aid that the government can provide?" 24.4% people made their first choice of improving housing conditions, 24.8% people chose providing housing subsidies. Adding these two together, the rate comes approximately up to a half, which shows that people's needs for housing, the most urgent problem they think should be resolved, is far more urgent than other needs.

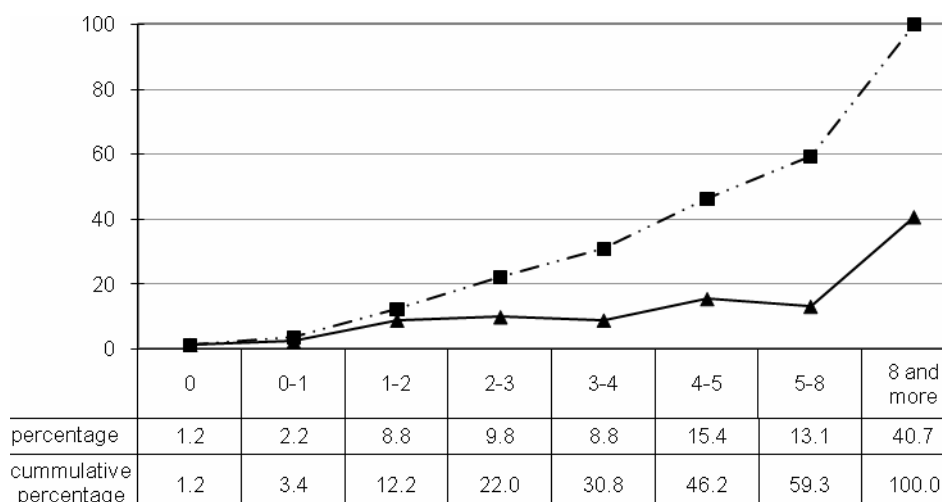
### **1.3 The quake-affected people has diversified needs for resolving their housing situation**

Most of the rural residents hope that the government could directly grant permanent housing subsidies, and had a rather high expectation for the amount of subsidies. Among the rural residents who lost their houses, 40.7% of them hope that the minimum amount of grant for each household should be more than 80,000 yuan, and more than a half (53.8%) of people hope for 50,000 yuan or more, only 20.8% hope for 30,000 yuan and 11.0% for 20,000 yuan and 2.2% for 10,000 yuan (see Figure 1). The median and the average for the expected subsidy are 40,000 yuan and 52,000 yuan per household respectively.<sup>1</sup> This shows that the affected rural people had high expectations for housing subsidies. There is a great difference between the actual housing subsidies from the government and people's expectations. The government should provide proper guidance through mass media and try to avoid the too heavy psychological blow.

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<sup>1</sup> Please note that the population in question is the rural households who have lost their houses in the earthquake.

Figure 1. The expectation of the affected rural people for housing subsidies (%)



For the urban people who lost their houses, the most popular plan was “provide them with low-priced houses (a kind of economic and suitable houses)”, 36.1% approving of this approach. Other approaches, such as “grant direct cash subsidies” and “provide rent houses with low rent” received support from 28.9% and 20.1% respectively. “Provide low-interest loans to home buyers” was only supported by 9.4%. For the affected urban people, it was considered better for the government to solve their problems within the existing housing security system, with providing security houses (low-price houses, low-rent houses) as the main approaches, ensuring the quake-affected people have places to live in.

#### **1.4 A majority of the affected people hope for a reduction on the mortgages for houses that were destroyed in the earthquake.**

In the surveyed area, it was rather uncommon that houses that had collapsed or were badly damaged in the earthquake had mortgages. The results showed that 20.2% of the households bought their houses by loans from banks, but only 7.8% of households had not paid off their loans before the earthquake. Of all the families, only 2.7% had not paid off their loans and at the same time met with the disaster which caused their houses to collapse or to be badly damaged.

A majority of the affected people think that the loans from the banks for houses which were damaged in the earthquake should be to some extent reduced or written off. Only 10% of people think that there should be no reductions. However, only 10.2% of people think the whole loan

should be written off. The majority, 69.1%, think that it should be reduced by a fixed percentage, and 10.7% think it should be reduced by the same amount of money. This result shows that most people think that the house owners, the banks and the government should share the responsibilities of the loss that was caused by the earthquake.

Although among the actual persons concerned (the loaners whose houses collapsed or were badly damaged and who had unpaid loans) the rate (18.2%) of people who think that it should be all reduced or exempted is obviously higher than others, the “rationality” of this demand seems to have not been accepted by the majority of the people.

## **2. Problems of basic infrastructure and related policy needs**

### **2.1 The electricity and water supply can basically meet people’s needs, over 70% of households feel satisfied.**

The proportion of households with access to electricity at the time of the study was 82.8%. The access to electricity in tent areas was the worst – 42.3% of the households living in tents did not have access to electricity. The proportion of households with access to electricity in rural areas was higher than that of urban areas. The main source of drinking water was well water, especially in rural areas. 79% of rural people used well water as drinking water, and nearly 60% of urban people used pipe water as drinking water.

The study reflects that the 77% are satisfied with the water supply, and 90.2% with the electricity supply. According to the extent of the disaster, in seriously affected areas, the satisfaction with the electricity supply is obviously higher than for the water supply, while in the extremely seriously affected areas, there is little difference in satisfaction between the electricity supply and water supply. In seriously affected areas, 75.7% were satisfied with the water supply while 93.8% were satisfied with the electricity supply. In the extremely seriously affected areas, 80% were satisfied with the water supply, and 80.3% with the electricity supply.

The sudden catastrophe destroyed many houses and much infrastructure. In this situation, government and the affected people in earthquake-stricken areas had at the time of the study been working hard together for two months to restore the basic water and electricity supplies in most affected areas. Most affected people are satisfied, which indirectly reflects the efficiency and



effectiveness of the relief work.

## **2.2 The sanitary conditions in the quake-affected areas need to be improved. The temporary transitional shelters are in the worse conditions.**

As many as 60% of the earthquake-affected households' toilets were rather simple and crude. The conditions in temporary transitional shelters were the worst. More than 76% people in temporary transitional shelters and 67% people in tents were using simple and crude toilets.

During the survey period, over a half (54.3%) household in quake-stricken areas had access to hot water shower. There are quite big differences between households living in different types of shelter. Only 37% of the households in tent areas had access to hot water shower, while nearly 89% of the households in residential apartments had such access. The households living in tents had bad sanitary conditions, and 13.9% of family members had no place wash at all.

Simple and crude sanitary conditions are a great challenge to the disease preventing work. Therefore, at the same time when great importance has placed on the housing problem, the basic sanitary equipment that is closely connected with housing problem must be taken into consideration.

## **2.3 There are great differences in how people received information: TV was the most important, while newspapers were the least.**

Open information channels play an extremely important role for the affected population to rapidly learn about national policies and to determine their confidence in reconstructing their homes. Besides, the information channels serve the government in order to inform the public in the affected areas and ease their hearts. According to this study, in the two months after the earthquake, nearly 86% of the households watched TV in their own home or nearby, and TV had become the main source for the people in the affected areas to get news from the outside. Respectively 35.2%, 25.3% and 24.1% of the households living in cardboard houses, tents and temporary transitional shelters did not have access to TV.

In contrast to TV, the rate for the households of listening to radio is only 41.2%. The rate of people in urban areas listening to radio was higher than that of rural areas. Similar to TV receiving

conditions, respectively 78.5%, 74.0% and 65.1% of the households living in prefabricated houses, temporary transitional shelters and tents did not listen to radio.

The accessibility of newspapers in quake-stricken areas was the lowest among the main information channels: nearly 70% of the affected households did not have access to newspapers.

The rate of people in rural areas without access to newspapers (79.1%) was far higher than that of urban people (35.1%).

We can see from the above rates that modern media (such as TV) should be put to full and effective use, so as to inform quake-affected people of policies, and, in doing so, people's minds may be stabilized and their confidence in life encouraged.

### **3. The employment and household economy**

The earthquake brought great economic losses to the affected areas; and in particular it also had great impact on the economic conditions of the affected households. According this study, the unemployment rate in the earthquake-stricken areas two months after the earthquake was 6.1%<sup>1</sup>. The unemployment rate in urban areas was especially high, which came up to 12%, much higher than that before the earthquake. The rural families who lost their productive resources such as lands, forests and ponds include 6.5% of all the rural families. For the self-employed business families, nearly 70% said that they were confronted with operational difficulties, or could not continue. The loss of income sources and productive materials pushed the people in the quake-stricken areas into a situation of serious difficulties. But with the support from the government, the affected people are confident in restoration and are taking parts in the activities in productive self-aid and reconstruction with great passion.

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<sup>1</sup> This unemployment data is calculated strictly according to the definition of unemployment by International Labor Organization. The unemployed refer to those who haven't got jobs at present, but would like to work and are trying their best to seek jobs, and if offered a job, they will take it as soon as possible. Only when the four conditions are all satisfied can he/she be defined as the unemployed.

### **3.1 The unemployment rate in quake-stricken areas in post-disaster period had nearly doubled after the earthquake.**

According to the criteria of International Labor Organization, the employment rate at the time when this study was made was around 94%. As many as 87.4% are still doing the same jobs as they did before the earthquake; 6.5% of the people had started in new jobs after the earthquake. The unemployment rate in the quake-stricken areas is 6.1%, of which, 3.2% are new increased unemployment after the earthquake, and thus the unemployment rate increased doubled.

The unemployment rate of the people with registered urban residence was even higher, and stood at 12.3%; while the unemployment rate of the people with registered rural residence was 5.0%. There were great differences in the unemployment rate between in extremely seriously affected areas and seriously affected areas, with a higher unemployment rate (9.4%) in extremely seriously affected areas. Among the unemployed, 13.1% hoped to find new jobs outside of the province. Moreover, 10.3% of the unemployed were willing to leave their place of living to find jobs elsewhere in the province. The rest hoped to find jobs where they lived.

It is worth mentioning that the quake-affected people had strong faith in reconstructing their homes with their own hands. Between the two aid methods, “direct cash aid” and “taking part in the reconstruction and getting paid” (give people work in place of relief subsidies), about 62.7% of the residents preferred the aid method of “taking part in the reconstruction and getting paid”. This provides a good mass basis for developing post-disaster reconstruction.

### **3.2 Nearly 70% of non-agricultural business activities were confronted with difficulties or had completely stopped because of the earthquake. However, 10% of the households still had the intention of starting their own business.**

Before the earthquake, there were 11.8% of households from urban and rural areas conducting non-agricultural business (such as running a shop, doing small business etc.). After the earthquake, half (53.5%) of the business activities of the households met with difficulties, but they still kept running; another 15.8% could not go on because of the disaster. At present, the biggest difficulty for the quake-affected people to restore their business is “No market” (37.9%), the following one is “No capital” (27.1%) and the third one is “No shop/No factories or equipment” (12.6%). In

order to solve these difficulties, the policy support that the people in the quake-stricken areas most hope for are “Tax relief” (23.1%), “Providing bank loans” (17.9%) and “Providing shops or stalls” (16.7%).

Despite the great loss that was caused by the earthquake, apart from the households who had business activities before the earthquake, 10.4% of the households were hoping to start their *own* business after the disaster. They are all valuable independent business starters, especially those households who lost both their house and land. Even nearly a quarter (24.7%) of households that lost their house and land hoped to start their own business after the disaster. The most desirable policy supports for those households who plan to start their own business after the disaster are respectively “Providing shop fronts or stalls” (38.6%), “Providing direct loan support” (34.0%) and “lower loan interests” (32.7%), and another 21.2% hopes for the policy support of “Tax relief”.

### **3.3 Most farming households planned to continue their work; the lack of arable land resources in rural areas and land re-distribution may become a serious problem after earthquake.**

The study discovered that 96.8% of the households who did agricultural activities before the earthquake still hoped to continue that work. Even among the households who had lost their both land and houses, there are still 94.5% of the households hoping to continue their agricultural work after the earthquake, and 5.5% of the households who had both lost their land and houses time intend to give up agricultural work. Among all the farming households in this study, only 3.2% of them do not hope to do agricultural work after the earthquake.

However, if the agricultural work is continued, the conflict between the lack of arable land resources in rural areas and the distribution will probably become more serious. Among the households who did agricultural activities before the earthquake, 70.3% of the households consider it unnecessary to redistribute land according to the population. But if the data are analyzed according to how much land farmers had lost, we find that different types of farmers show quite dissimilar attitudes. Among the rural households who had lost their land, nearly a half of them think that “it is necessary to adjust the arable lands according to the population”, but those

who had not lost their land think “it is not necessary”. This result shows that during the process of resettlement or transition of rural people, the problem of agricultural resources should be given a full consideration. If the rural households who had lost their lands are still be settled in rural areas, it is likely to arouse conflicts owing to the redistribution of the land.

## **4. The relocation problem and related policy needs**

### **4.1 The vast majority of the people whose houses were damaged are willing to obey the government’s relocation arrangement.**

Among the people whose houses were damaged, 40.5% of them expressed that if the government required, they would like to move to other places; 14.0% of them expressed that although they are not willing to do that, but they will still obey the government’s arrangement; 18.4% of them had already had the idea of relocating after their houses were damaged. Meanwhile, another 13.8% declared that even if it is required by the government to relocate, they still would not like to leave the places they were living.

Comparatively speaking, the willingness to migrate of those who had lost their land is higher than that of the people who had not lost their land. Less well of households were more willing to relocate than other households. To some extent, relocating is not only a choice that the seriously affected people are forced to make, but also a way for poor households to search for new opportunities and new life.

Among the people who were prepared to move, most of them were waiting for arrangements made by the government. About 92.6% of the people said that they were waiting for the unified arrangement from the government or their original work unit; 5.7% of them said that they were going to go and seek help from their relatives or think about other methods; 1.7% of them said that they had not thought about the problem yet.

## **4.2 The vast majority of people with intention of relocating wanted to move to nearby places.**

Of the respondents 79.3% hoped to move to other villages of their original township or in urban areas to another residence committee of the same neighborhood committee; 12.6% of them hoped to move to other towns (or neighborhood committee) of their original counties (districts); 5.5% of them hoped to move to other counties (districts) of their original cities; 1.6% of them hoped to move to other cities in Sichuan Province. Only 0.9% of them were willing to move to other provinces.

A further analysis finds out that education levels had a significant influence in the distance of relocation. The higher the education level is, the more distant the target location is from the original community. The radius of the relocation places are from the original ones for the urban people is higher than the rural people. 84.6% of the households who would like to move hope to stay at the original towns, while the households who would like to stay at their original streets only take 58.2%.

## **4.3 Rural dwellers who had lost their house and land wanted to go to other rural areas when they considered destinations.**

Only 12.1% of the rural people who lost their house and land said that they hoped to move to urban areas, another 7.2% said that they hope to move to both urban and rural areas. Thus the percentage of rural dwellers that had lost their house and land and were willing to move to urban towns only was 19.3%, and 80.3% of the farmer households hoped to move to rural areas for settlement.

The most desirable policy support of those who hoped to move to rural areas for settlement are “relocating subsidies” and “providing lands for building new houses”. Besides, “provide arable lands” is also a desirable policy support.

Among the rural families who lost their house and land and are willing to move to urban towns, 42.6% of them said that they would like to go to the cities where their family members are working, another 5.3% of them said that they would like to go to counterpart towns in aid; 7.5% said they would like to go to other towns. It is worth noting that 44.6% of them had no clear target



places to move to, and they are still waiting for the unified arrangement from the government or their work units.

The most desirable policy supports of the quake-affected rural people who hope to move to urban areas are solving the housing problem and providing job opportunities. Besides, the importance order of the other policy supports they desire to receive is: solving the problem of children's education, granting relocating subsidies, resolving local urban registered residence and providing lowest living security.

## **5. Health conditions**

The earthquake brought loss of wealth and property and killed many. Moreover, the results of the survey show that the earthquake caused serious physical and psychological damage among the quake-affected people. This poses a high demand on the work of medical aid and psychological recovery.

### **5.1 The earthquake caused 1.4% of the population to be injured, and the old, urban, and poor were more likely to be injured.**

About 1.4% of those living in the quake affected area were injured in the earthquake. The probability of being injured increased with age: the percentage of injured people over 60 years old is the highest, about 3%. Besides, a higher percentage of the urban people were injured than were rural dwellers. Those residing in the extremely seriously affected areas and at the resettlement points have a higher percentage of injury than those in the seriously affected areas, and those who are illiterate and the poorest had a higher likelihood of injury than others.

### **5.2 The most common injuries were mild flesh wounds; most injured received treatment from professional medical organizations; mobile medical teams and military hospitals played an important role, especially in the extremely seriously affected areas.**

Mild flesh wounds were the most common type of injury and 52.4% of the injured had such wounds; the next largest categories were sprains and fractures in legs and knees (16.5%) and

shoulders (9.5%). Serious injuries in the heads accounted for 4.6% of the injuries while traumas with a large amount of blood lost 3.7%. Fractures in back and neck, fractures in the crotch and mild fire burns each accounted for 2-3% of the injuries.

Most injured received treatment from professional medical organizations after being injured. The highest percentage (30.5%) was treated in township hospitals while city hospitals treated 15.3%. It is worth noting that mobile medical teams and military hospitals played important roles in the relief work of this disaster, respectively 9.1% and 5.4% of the treatments were performed by these two medical organizations. Especially in the most damaged areas, the mobile medical teams and military hospitals played important roles.

**5.3 The old are most vulnerable to be disabled or left with sequelae because of the injuries; Of the injured workforce 18.8% had partially or completely lost their work abilities, and the majority of them are rural people.**

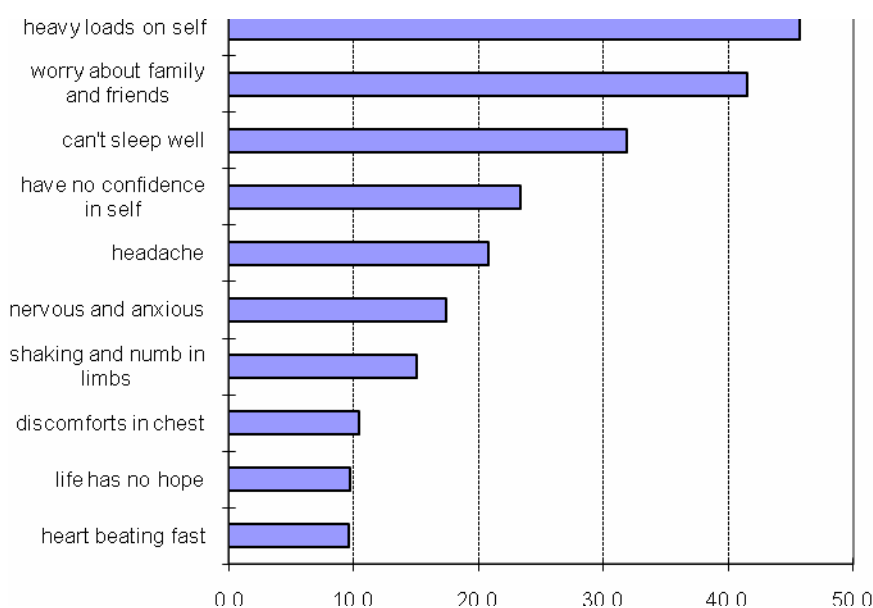
Injuries are likely to bring people long-term pain, and have negative impacts on households' economic conditions. From the perspective of population structure, those who are over 60 years old are most likely to become disabled or be left with sequelae (35.5%), followed by the middle aged and early old aged people who are in 31-40 and 51-60 age groups(32.7% and 24.7%). There are respectively about 15% people in 0-10 years old and 41-50 years old to become disabled or be left with sequelae; and there is no report about these situations in the group of 21-30 year-old people. Moreover, in the injured population, 18.8% of those of working age have partially or completely lost their work abilities. Among them, 80.4% have rural hukou. Considering the lower income level and social security level in rural areas, the need to help those rural people who had lost their work ability would be more demanding.

**5.4 Many suffered from the psychological discomforts such as depression and anxiety; psychological health condition is poorer in people of low socio-economic status and severe loss.**

After the earthquake in Wenchuan, the psychological health condition of the population has come into the focus of media and public debate. Sudden major disasters have often left the affected people with great stress and psychological trauma, but there are great differences in the symptoms and needs of different groups and individuals, which requires identification and specific

treatments. The survey investigated the psychological stress with CHQ-12 psychological distress scale. Over 40% of the affected people often have the feeling that “heavy loads on self” and “worry about family and friends”, about 1/3 of the affected people say that they often “can’t sleep well”. Besides, the percentage of the affected people who often suffer from the following symptoms of depression and anxiety such as “having no confidence in self”, “nervous and anxious”, “shaking and numb in limbs”, “headache” is between 10 and 20% (Figure 2).

Figure 2. The percentage of the affected people often suffer from psychological discomforts (%)



The mean of CHQ-12 score in the average number of frequently felt items is 2.4. In total, 24.5% population were detected as having psychiatric morbidity in terms of having a score on the CHQ-12 equal to 4 or higher, which is very close to the figure found in Taiwan primary health care users after the 1999 earthquake<sup>1</sup>. The psychological health conditions vary with gender and age. As age increases, men’s psychological conditions become worse, but this is not the case for women. Specifically, men aged <sup>2</sup>21-30 years are in best psychological condition and their psychological condition troughs when they are 51-60 years old. For women in contrast, this trend

<sup>1</sup> Yen et al. Psychiatric morbidity and posttraumatic symptoms among earthquake victims in primary care clinics. *General Hospital Psychiatry* 25(2003) 253-261.

<sup>2</sup> The youngest age group for RSI is 21-30.

is not clear. Women in 21-30 year-old have a psychological condition comparable to women in the age of 51-60 and is significantly higher than men in the same age cohort. The economic conditions of the household and education level influence peoples' psychological condition. With improving economic conditions and education levels, individuals' psychological conditions are also substantially improved. Those who had family members injured or dead, and those have greater property losses in the disaster have worse psychological condition.

Thus, for both physical and psychological health conditions, the old and the poor are in the most disadvantaged position. Therefore, the medical aid to the old and social disadvantaged people should be given special consideration in the relief work. Although the percentage of the injured is not high in the total population, for the affected families, the injuries of the laborers and the damage of their work abilities would undoubtedly have a negative effect on their economic conditions, especially for rural households. Therefore it would amplify the effects of other policies if one could provide active recovery treatment to the injured, exploring new employment opportunities and provide necessary social security.

## **6. Education**

The earthquake damaged many schools in the affected areas. Numerous school buildings collapsed and many teachers and students were killed. Among the 53 communities where there were schools and kindergartens in this survey, 57% of the communities' school buildings had collapsed. A problem which is worth noting in the post-disaster reconstruction work is whether these schools could be restored to normal operation in a rapid way, and whether the children in the affected areas could enjoy a normal learning context. In the following sections, the education problem of the children in the affected areas will be analyzed according to the results from the study. The school-age children in this report are limited to the students in primary schools, junior middle schools and senior middle schools before the earthquake.

### **6.1 During the study period, the schools in the affected areas were gradually returning to normal; 20% of the students had not returned to schools because of unsafe or destroyed school buildings**

The study showed that during the research period (i.e. two months after the earthquake), there were 26.4% of the school-age children having returned to schools. The school-age children did not go to school at that time mostly because the new semester had not started yet. Only 7.6% and 11.1% of the students could not go to school because there were no places for schooling or the school buildings were not safe.

### **6.2 The earthquake had a little influence on parents' expectation for their children's education, and the probability of children quitting school because of the disaster is small.**

The quake-affected people placed great emphasis on their children's education. 97.4% of the parents of the school-age children say that they "plan to make their children continue to study". Among the 2.0% of the children who were likely to "be forced to quit school", they were mainly the third year graduate junior middle school students or above senior middle school students.

### **6.3 Most parents would like to send their children to boarding schools in the coming new school year**

Of the parents 64.2% claimed that they would like to send their children to boarding schools next year. Moreover 21.9% of the parents stated that boarding school was not a relevant option. Only 13.9% of the parents clearly say that they would not like to send their children boarding schools.

The parents whose children were still in primary school at present were reluctant to send their children to boarding schools. The parents whose children were in boarding schools before the earthquake were more willing to send their children to boarding schools. From this, it can be seen that at present parents most likely refuse to send their children boarding schools because the children are too young or the parents had not had a clear understanding of the boarding schools. This can be changed through strengthening information about boarding schools.

## **7. The attitudes and opinions of the affected population**

### **7.1 A majority of people were satisfied with their life**

On the whole, 80% of the affected people were satisfied with their present life, of which, 16.2% of them “very satisfied”, 65.3% “quite satisfied”. Adding these two, the rate of satisfaction is 81.5%. The rate of “not very satisfied” is 14.8% and “not satisfied at all” only takes 3.7%.

The satisfaction rate within the seriously affected areas was rather low. The satisfaction rate in seriously affected areas comes up to 83.6% and in extremely seriously affected areas is only 75.6%, in the resettlement points it is even lower to 71.0%. The satisfaction rates of the households with no houses damaged and slightly damaged are respectively 87.1% and 84.2%, and it is only 73.9% for the households whose houses collapsed or were seriously damaged. Besides, the satisfaction rate of those who were unemployed was rather low, only 63.8%.

### **7.2 The quake-affected people evaluated positively the efforts of the government at all levels.**

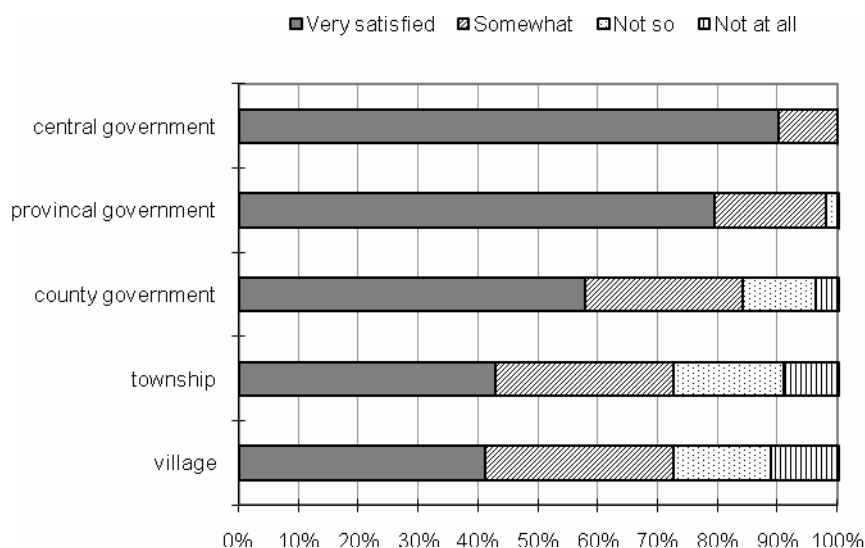
Most of the quake-affected people expressed their satisfaction with the efforts of the government of all levels, especially high satisfaction with the central government. 90.0% of the people were “very satisfied” with the central government’s activities in the relief work, 9.5% “quite satisfied” and only 0.5% “not very satisfied”, there is hardly any “not satisfied”. The satisfaction rates with the provincial government, county government, neighborhood committees and villages (residents’ committee) (including “very satisfied” and “quite satisfied”) are respectively 98.1%, 84.2%, 72.5% and 72.6%.

It is worth noting that quite a few affected people were not satisfied with the local governments’ efforts in the relief work. The lower the level of the local governments, the higher the rate of dissatisfaction is. The township/neighborhood committees and the village/resident’s committees received the worst evaluation from the people (see Figure 3).

Compared with other groups; urban residents; the people with family members’ who were injured or killed; and the people who had not received disaster subsidies had a higher rate of dissatisfaction with local level government organizations. Among urban residents 41.2% were not satisfied with their residence committee, 20 percentage points higher than that of rural people’s

satisfaction with their village (23.6%). The rate of dissatisfaction for the households that had family members' injured or killed is 37.4%, and that of the people who had not received disaster subsidies is 33.3%, both clearly higher than the average.

Figure 3: Satisfaction with the efforts of the government different levels (%)

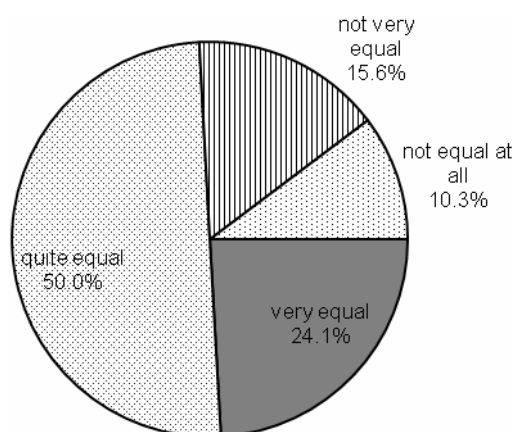


Moreover the quake-affected people invested high trust in the governments at all levels. The rate to show their “totally trust” or “quite trust” in the central government is 99.6%, to the provincial governments is 97.9%, and to county governments, urban towns (streets) and villages (residents' committee) are respectively are 86.1%, 73.6% and 75.8%.

### 7.3 A majority of the quake-affected people agreed that the relief supply distribution is quite equal.

More than 70% of the quake-affected people think that the relief supply distribution is equal. 74.1% of the people think it is “very equal” or “quite equal”, and 25.9% “not very equal” or “not equal at all”.

Figure 4: The assessment of the equality of relief supply distribution



A relatively high rate of the urban residents and of those who had not received any disaster subsidies think the distribution was unequal. The rate of urban people who think the relief supply distribution was not equal (including “not very equal” and “not equal”) is 40.6%, which was higher than that of rural people (21.9%). People who had not received any disaster subsidies accounted considered the aid unequal in 37.3% of the cases, which was higher than that of the people who had received disaster subsidies.

For any inequality that occurred in relief process, 70% of people think it was acceptable. 22.5% of the people totally agreed with statement that “the relief work is very complicated, so some inequalities can be accepted”; 49.1% quite agreed. The rates of “not quite agree” and “completely disagree” were respectively 15.3% and 6.5%. Another 6.6% said “it is too complicated to make it clear”.

#### **7.4 The knowledge of the government’s relief policies need to be increased, while the channels to get the policy information need to be improved.**

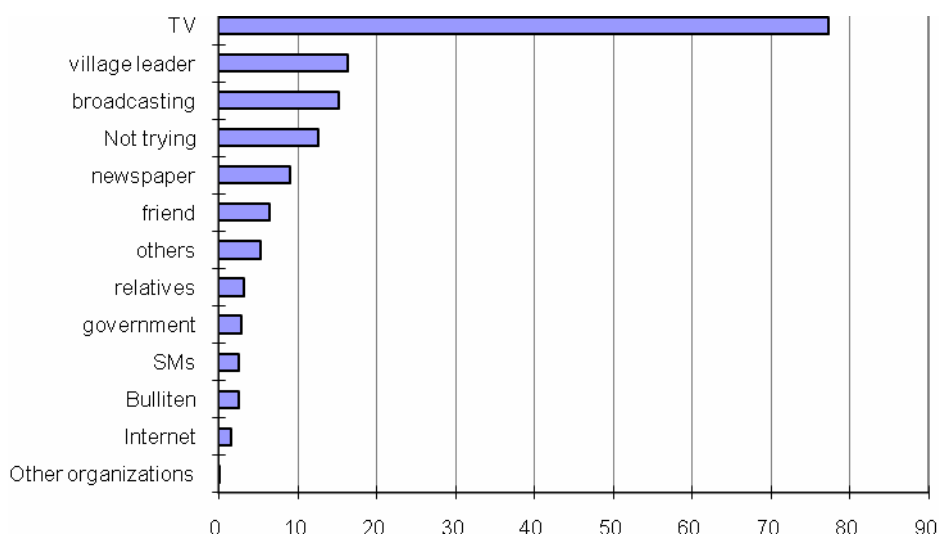
There existed some problems concerning the understanding of the government’s relief policies for the earthquake-affected people and over half of them say that they were not very clear about the present policies of the government. Only 5.3% answered “very clear”, 43.1% “understand some”, 34.5% “not quite understand”, and 17.1% “not understand at all”.

TV, village cadres, radio and newspapers were the most important information sources of information about relief policies, but the accessibility of the channels such as TV, radio and



newspapers could be improved. We can see that from the description of restoration of basic facilities, during the study period, 13.3% of the quake-affected people had no access to TV, 58.5% of the quake-affected people had no access to radio, and only 25.7% of the quake-affected people had access to the daily newspaper, while 68.1% had not. During the process of post-disaster restoration, it is an urgent task to restore the information channels promptly.

Figure 5: The channels for obtaining policy information (%)



### 7.5 The quake-affected people had a tendency to depend on the government for reconstruction

This study found that 41.8% of the quake-affected people subscribed to the idea that “we quake-affected people have limited abilities, and we can only depend on the government to develop the restoration”. That was especially the case in the extremely seriously affected areas where about half (49.4%) agreed to the statement. The rate agreement with the statement by those living at the resettlement points was even higher at 54.5%. The more serious the loss was, the higher the rate of agreement to the statement.

Also as regards other indicators in this study, we find a strong dependency on the government of the quake-affected people placed for the restoration. Half of the people hope that the government should first “improve the living conditions” and “provide housing subsidies” in the coming years. Especially for those whose houses were destroyed in the earthquake, nearly 70% wished that the government would do so. These results reflect on the one hand that the people in the

quake-stricken areas had strong faith in the Party and the government, but on the other hand, as decision makers, the government should notice that the synonyms of dependency are high expectations and high hopes, which will be important experience and challenge to the quality and the efficiency of the post-disaster restoration work.

We think that in the post-disaster restoration and reconstruction work, apart from doing a better job on resolving practical problems for the quake-affected people, the government should direct people to take active parts in productive self-aid through information campaigns, and encourage people start businesses on their own. Moreover, through active financial and employment policies by giving them employment instead of outright grant and small loans and strengthening pre-job training to practically solve the livelihood problem in the quake-stricken areas.

## **8. Social support and social capital of the quake-affected people**

The earthquake in Wenchuan not only destroyed a large amount of material wealth, but also damaged the social networks of the people, resulting in great social loss and psychological trauma. The survey showed that 0.7% of households had family members killed or lost in the earthquake, 6.4% found their social networks damaged because of the deaths of relatives, friends and acquaintances. However, the quake-affected people were participating positively in the reconstruction work by mutually helping each other and self-organizing after the disaster. This is not only the spiritual power for the quake-affected people to conquer the disaster, but also will become the most reliable “social capital” when the quake-affected people begin to restore and reconstruct their homes.

### **8.1 After the earthquake, the quake-affected people received support and help from the whole society, which were targeted to the people who were extremely affected and who were in great needs for help.**

Among the households interviewed in this study, 68.5% of them had received articles of daily use, 20.4% had received cash supports and 17.4% had got help when building tents and houses, and

20.9% received treatment aid, 29.4% had received psychological help and 4.3% had received help of being taken care of babies and the old.

On the whole, the people in more seriously affected areas, the people whose houses were badly damaged and the people who lost their land received more help than others. Those living in the resettlement points received more help than other people.

### **8.2 Aid from the government areas the most important to the quake-affected people; aid from neighborhood, friends and volunteers was effective supplements to the government aid.**

The aid that the quake-affected people received came through various channels, but the aid from the government was the most important to the quake-affected people. Of the households, 60.4% thought that the government was an important spiritual support for them, moreover 11% think People's Liberation Army (i.e. the Chinese army) and armed police had provided important aid.

The support from neighborhood and friends through informal channels was effective supplements to the government aid. Around 22.0% of the households thought the aid from neighborhood, friends are important to them while 2.7% thought aid from volunteers and NGO was important to them. There are differences between the types of aid from the neighborhood and friends and volunteers and NGO and that from the government. The aid from the government mainly focused on providing articles of daily use, cash and medical care. The aid from neighborhood and friends mainly focus on building tents and houses, taking care of babies and chatting to ease their minds.

It is worth noting that volunteers and NGO had also played an important role in this earthquake, especially on the medical care and taking care of babies. All the forces of the whole society work in coordination to contribute to easing people's pain and improving their quality of life.

### **8.3 The quake-affected people took actively part in the search and rescue work, at the same time as receiving aid, they tried to help others.**

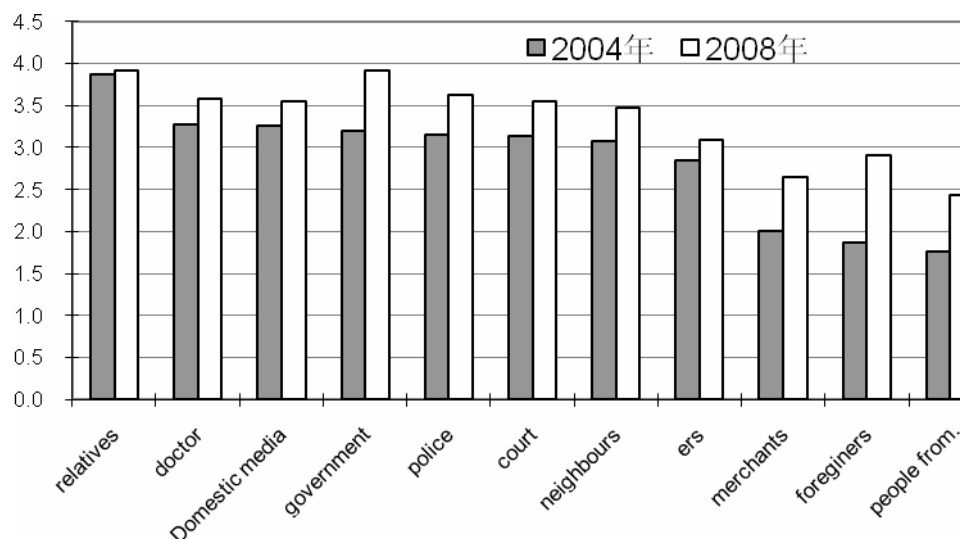
About 6.8% of the quake-affected people had taken part in search and rescue work after the earthquake. Moreover, 13.8% had taken part in post-disaster activities such as patrols, removal of demolition waste, material handling and taking care of babies. The people in extremely seriously affected areas took part in search and rescue work more frequently than elsewhere. Party members

participated more than non-Party members and people who had received help from others also participated more than those who had not received. The rescued were active to help others in need, forming an atmosphere of “All for one, one for all”. This without any doubt will become a spiritual source for the quake-affected people to defeat the disaster and rebuild homes.

#### **8.4 After the disaster, the quake-affected people had a stronger trust in the society, especially in government and foreigners.**

Compared with the data from the study which was made in Sichuan province in 2004 by Chinese Academy of Science and Technology for Development (CASTED), the trust that the quake-affected people had in the society had increased. Taking “4” (“A lot”) as the most trust, “1” the least trust (not at all), the trust rose to different extent on 11 different indicators. Of them, the trust in the government and foreigners has increase the most. The trust that the quake-affected people placed in the government is almost the same as trust within families (Figure 6). This results shows that it is completely possible to enhance people’s trust and social capital through active policies.

*Figure 6: Comparison of trust invested in different institutions: 2004-2008*



Compared with the specific economic reconstruction and material reconstruction, mental reconstruction may be longer and more difficult. However, from the moment when the disaster occurred, the quake-affected people had already begun their process of rebuilding their spiritual

hometowns with their practices. From the small help between neighbors and friends to the improvement of faith in the whole society, the quake-affected people presented their courage and daring action in the face of a major natural disaster. This is a valuable spiritual treasure, and also extremely important “social capital” in reconstruction. The government and the whole society should make great efforts to stimulate and protect such spiritual wealth and “social capital”, making them spirit sources of post-disaster reconstruction and even the rise of the whole nation.