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A Case Study in Changling Town, Chongqing Municipality, Three Gorges Reservoir (TGR) Area

This study focuses on the impacts of urbanization and resettlement on employment of rural inhabitants, based on a tracking investigation of migrants and host inhabitants in Lishu Village, and local inhabitants in other

villages of Changling Town in the Three Gorges Reservoir (TGR) area. Urbanization in its initial stage, driven by non-conventional forces and resettlement, has triggered a shift of rural labor from agriculture to industry. This has worsened the labor surplus situation for both migrants and host inhabitants, especially women.

Keywords: Three Gorges Reservoir area; urbanization; resettlement; rural inhabitants; employment.

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Introduction

Urbanization is a process by which rural populations become urban residents. The main components of urbanization are the shift of an ever-increasing labor force from agriculture to the non-agricultural sector, and a change in population distribution from scattered rural areas to more compact towns or cities, often followed by a change of lifestyle (Carter 1975; King and Golledge 1978). The urbanization process usually takes place in 3 phases: an initial phase, with a low level of urbanization; an acceleration phase, with rapid population concentration in urban areas; and a terminal phase, with slow development or even stagnation of the urbanization process (Northam 1979).

Urbanization generally takes place on the basis of regional economic development, especially rapid development of industry. This type of urbanization is driven by conventional mechanisms. However, some types of urbanization are under governmental control without a sound industrial foundation, driven by non-conventional mechanisms. The latter may lead to over-urbanization (Johnston 1984; Castells 1979). Urbanization essentially involves a transition of labor from traditional industries to modern industries. Employment of laborers is therefore a major subject in studies of urbanization.

Employment is generally divided into 2 types: wage-earners and the self-employed. In terms of stability of employment, it can be divided into stable wage labor and casual work (Bromley and Gerry 1979). In the process of urbanization, the transition of laborers from

the agricultural to the non-agricultural sector is constrained not only by personal qualities but also by the capacity of non-agricultural industries. Thus employment is closely related to the development of the non-agricultural sector, especially industrial development. It is usually affected to various degrees during different phases of urbanization and by different driving mechanisms, given the differences in development in the non-agricultural sector, especially industrial development.

Population trends in the Three Gorges Reservoir Area

The Three Gorges Reservoir (TGR) area consists of 15 counties (or districts) in eastern Chongqing Municipality, and 4 counties (or districts) in western Hubei Province, with a total area of 57,200 km² and a total population of 19.6 million (including the city of Chongqing) (Figure 1). The terrain exhibits great differences in relative altitude. Mountains and hills account for 74% of the total land area, whereas plains and dams take up only 4.3%. Population density in the area is 343 persons/km² and only 0.07 hm² per capita is cultivated land.

Per capita GDP was RMB 6413 yuan (US\$ 775) in 2001 and per capita net income for rural households was RMB 1903 yuan (US\$ 230), which were 13.09% and 19.57% lower than the national average, respectively. In 2001 the per capita added value of the secondary and the tertiary sectors was RMB 2995 yuan (US\$ 362) and RMB 2463 yuan (US\$ 298), which were respectively 22.11% and 2.53% below the national average for that year.

Under these conditions, surplus rural labor in the area amounts to more than 3 million people (Chen and Li 1996). Moreover, from the start of the Three Gorges Project (TGP), cultivated lands and garden plots up to 24,400 km² were gradually inundated, and approximately 600,000 rural migrants still need to be resettled in the area near the reservoir. Two cities, 11 county towns, and 116 towns (Gu and Huang 1999) in the area need to be partially or totally resettled. Thus new towns in the area are developing fast. The level of urbanization rose from 10.17% (Yang 1995) in 1992 to 26.66% in 2001. As a result, employment of rural inhabitants will be greatly affected by a number of uncertain factors in the TGR area.

The TGR area is part of a traditional agricultural area. Urbanization is being driven by migration and resettlement, and affected by government policies. Its driving mechanisms, however, are not conventional. Urbanization is still in its initial phase. What kinds of impact will urbanization and resettlement have on rural employment? This is a critical issue for development in the TGR area. Some previous studies of current employment in the TGR area (Chen and Li 1996; Wang 1996) have hinted at solutions to employment problems in the TGR area. The present article, based on a case



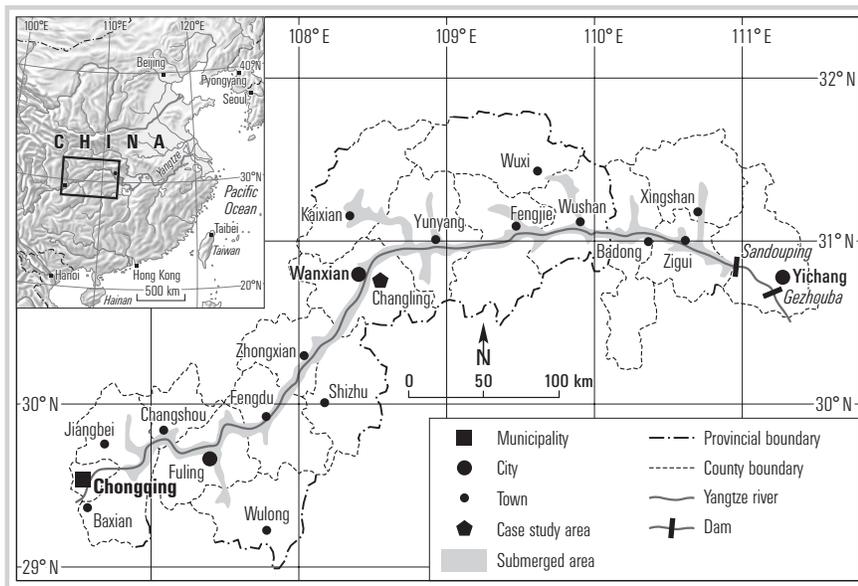


FIGURE 1 Administrative divisions in the Three Gorges Reservoir area. (Map of TGR from Chen and Li 1996; map of China by Andreas Brodbeck)

study, attempts to reveal the impacts of resettlement and urbanization on migrants, and on host and local inhabitants in the TGR area, so as to provide a theoretical basis for consideration, as well as a practical example of shifts in employment in this area and other reservoir areas.

Methods

By comparing the activities of migrants with the activities of host inhabitants in Lishu Village, whose land is occupied by construction of town and resettlement, and of local inhabitants in other villages whose land is not occupied by such construction, the study analyzes the impacts of urbanization and resettlement on employment. Sampling methods that consider the main activities of households, eg agriculture, industry, construction, transportation, trade and service, were adopted. A tracking investigation of rural households was conducted once a year for several years. It involved 11 migrant households, 23 households of host inhabitants in Lishu Village, and 29 households of local inhabitants in other villages.

Prior to the investigation, a series of questionnaires was devised to focus on employment location, trade activity, laborers and their workdays, educational levels, and other factors. Laborers, by our definition, are people 18–60 years of age, excluding students. As a majority of rural laborers engaged in different activities at different times of the year, employment was arbitrarily classified according to actual workdays. When a laborer spent over 50% of his or her total workdays in agricultural activities, his or her employment was counted as agricultural. If he/she spent less than 50% of his/her

workdays in agricultural activities, his/her employment was counted as non-agricultural.

To ensure accuracy of the data, questionnaires were delivered to households in advance. Households were required to record the workdays of family laborers in different trades and activities, and at different times during one year. Researchers then visited these households, asked certain questions, and collected all the questionnaires. The study started in 1997. Up to now, researchers have compiled a set of survey data on migrant households for 3 consecutive years, from 1999 to 2001, and a set of survey data on host inhabitants in Lishu Village and local inhabitants in other villages for 5 consecutive years, from 1997 to 2001.

Case study area

Changling Town is situated in Wanzhou District (formerly Wanzhou City), Chongqing Municipality (Figure 1). Before 1992, it was called Changling Township. The non-agricultural population in 1991 was only 2.42% of the total (Liu et al 2001). In order to accelerate development of small towns in the TGR area, Changling Town was enlisted as one of the key small towns in Sichuan Province and Chongqing Municipality (Chongqing, formerly under the governance of Sichuan Province, became a municipality in 1997). Urbanization in Changling Town developed rapidly after 1995.

From 1999 to 2001 the government of Changling Town received 342 rural migrants from 102 households in Tailong Town in Wanzhou District. In 2001 the percentage of the non-agricultural population reached 16.45%. In the meantime the rural economy has developed further.

In 1991 the net income per farmer was only RMB 316 yuan (currently US\$ 55). By 2001 it had risen to RMB 2385 yuan (US\$ 288). However, Changling is still an agricultural town where production is—to a large extent—dependent on land, and the economy is dominated by agricultural activities (Figures 2 and 3). At present the town is relatively underdeveloped, and the non-agricultural industrial basis remains poor. In 2001 the output value from non-agricultural activities was only 45.56% of the gross output value. The motivating mechanisms of urbanization seem more or less non-conventional.

In addition, population density in Changling Town is as high as 534 persons/km², which results in a much greater gap between laborers and availability of land. There is now 0.06 km² of cultivated land per capita for the whole town. In Lishu Village, which is under town construction and resettlement, the per capita cultivated land was 0.06 km² in 1991, 0.04 km² in 1997, and a

mere 0.02 km² in 2001. For migrants, the per capita cultivated land and garden land was 0.08 km² before resettlement, reduced to a mere 0.04 km² after resettlement. Presently, in view of land resources and socioeconomic development, as well as the impacts from resettlement of the TGP, and the process and characteristics of rural urbanization, Changling Town is a typical, representative town in the TGR area.

Results and discussion

Shift of laborers to the non-agricultural sector

Based on investigations of laborers and employment (Table 1), in 1997 the percentage of the total labor force engaged in the agricultural sector among host rural inhabitants in Lishu Village was 56.25%, while the percentage involved in agricultural activities among local inhabitants in other villages was 66.67%. By 2001 the percentages were 45.16% and 58.75%, respectively. In 1999 the percentage of laborers in the agricultural sector was 67.74% of the total for migrants; this declined to 61.29% in 2001. These figures demonstrate that the shift of laborers to the non-agricultural sector is taking place as resettlement programs are implemented and urbanization is being promoted.

Employment among rural inhabitants of Changling Town can be characterized as follows: one laborer may work in different trades at different times of the year (Chen and Li 1996); in a family, different members may work in different trades concurrently. As laborers, workers can no longer be counted as part of the conventional agricultural sector. Nor are they professionals fully engaged in the secondary and tertiary sectors.

In order to portray the rural employment situation in Changling Town in different sectors more accurately, a dynamic investigation of annual average workdays per laborer was carried out for migrants and host inhabitants in Lishu Village, and for local inhabitants in other villages (Table 2). In 1997, the workdays of host inhabitants in Lishu Village and local inhabitants in other villages in the agricultural sector accounted for 48.55% and 69.38% of total workdays, respectively. In 2001 the figures declined to 33.02% and 59.68%, respectively. In 1999 the average number of workdays for migrants in the agricultural sector accounted for 66.73% of total workdays in Wanzhou District. In 2001 this declined to 43.42%.

At present, most non-agricultural rural laborers are engaged in trade, services and construction, which require a relatively low level of skills. Laborers in non-agricultural sectors are usually self-employed or do casual work. Only about 20% of the laborers in the non-agricultural sector have stable wage labor. This illustrates that, although laborers are gradually shifting from the agricultural to the non-agricultural sector, employment is still in a period of transition.



FIGURE 2 Changling Town area in 1994: the village of Fujia, with a non-agricultural population of only 620. (Photo by Liu Shaoquan)



FIGURE 3 Changling Town area today: the village of Lishu, with a non-agricultural population of over 4600. (Photo by Liu Shaoquan)

TABLE 1 Change of rural labor distribution in different sectors; WD = Wanzhou District.

	Host inhabitants in Lishu Village				Local inhabitants in other villages				Migrants			
	Agricultural	Non-agricultural	Total	Job out-side WD	Agricultural	Non-agricultural	Total	Job out-side WD	Agricultural	Non-agricultural	Total	Job out-side WD
1997	36	28	64	4	58	29	87	12	–	–	–	–
1998	31	31	62	4	48	31	79	13	–	–	–	–
1999	31	31	62	5	45	38	83	16	21	10	31	2
2000	30	34	64	5	44	40	84	15	19	12	31	2
2001	28	34	62	8	47	33	80	18	19	13	32	4

TABLE 2 Change in distribution of annual average workdays per laborer in different sectors (for employment within Wanzhou District).

	Host inhabitants in Lishu Village			Local inhabitants in other villages			Migrants		
	Agricultural	Non-agricultural	Total workdays	Agricultural	Non-agricultural	Total workdays	Agricultural	Non-agricultural	Total workdays
1997	125.0	132.6	257.6	133.4	85.9	192.3	–	–	–
1998	86.4	139.0	225.4	117.5	84.6	202.1	–	–	–
1999	68.0	135.2	203.2	110.8	82.6	193.4	151.7	75.7	227.4
2000	68.9	124.3	193.2	114.7	82.1	196.8	65.1	100.6	165.7
2001	68.5	138.8	207.3	124.4	84.1	208.5	66.0	86.3	152.3

A comparison of employment among host inhabitants and migrants in Lishu Village with employment among local inhabitants in other villages sheds light on the proportion of workdays for host and migrant laborers in the agricultural sector in Lishu Village (excluding the laborers working outside Wanzhou District). In 1997 there were 28 host laborers in the non-agricultural sector in Lishu Village, of which 24 were working in the district. In 2001 34 laborers were engaged in the non-agricultural sector in Lishu Village, of which 26 were working in the district. In other villages, there were 17 local laborers in 1997 and only 15 in 2001, working in the non-agricultural sector in the district. The shift of laborers to the non-agricultural sector in other villages was achieved by exporting labor. This illustrates that a shift of laborers to the non-agricultural sector was more conspicuous among host inhabitants and migrants in Lishu Village than among local inhabitants in other villages. Urbanization and resettlement play a positive role in the shift of rural inhabitants to the non-agricultural sector.

Serious labor surplus

Based on investigation of the workdays of laborers (Table 2) in 1997, the annual average number of days per laborer among host inhabitants in Lishu Village and local inhabitants in other villages was 257.6 and

192.3, respectively. In 2001 the figures were 207.3 and 208.5, respectively. For migrants, the annual average number of workdays per laborer in their original residential area was 227.4 in 1999, whereas the figure was 152.3 in 2001, after these laborers settled in Lishu Village.

Under current conditions in the TGR area, self-employed farmers usually work 300 days per year and do not have weekends. As their income per day is very low, they work most of the year in order to earn more. It is assumed here that if a farmer works 6 days a week, he will work for 300 days a year. If this is taken as the total number of annual reasonable workdays for each laborer, the amount of surplus labor for the host inhabitants in Lishu Village and for local inhabitants in other villages was 14.13% and 35.9%, respectively, in 1997. These figures were 30.9% and 30.5%, respectively, in 2001. Surplus labor among migrants amounted to 24.2% in 1999 and 49.23% in 2001.

The study revealed that local inhabitants in other villages generally faced surplus labor conditions, and that there was no great change in the employment situation during the period of investigation. However, for inhabitants and migrants in Lishu Village during the same period, the labor surplus situation became more serious. The reason was that the area of cultivated land worked by migrants and host inhabitants in Lishu Vil-

TABLE 3 Change in average years of education per laborer in different sectors for each sex. The comparatively small sample number may amplify the effect of the change.

	Host inhabitants in Lishu Village (years)				Local inhabitants in other villages (years)				Migrants (years)			
	Agricultural	Non-agricultural	Male	Female	Agricultural	Non-agricultural	Male	Female	Agricultural	Non-agricultural	Male	Female
1997	4.72	7.93	6.90	5.44	4.88	7.79	6.31	5.26	–	–	–	–
1998	4.48	7.55	6.82	5.44	4.71	7.52	6.39	5.00	–	–	–	–
1999	4.84	7.55	6.82	5.68	4.56	7.45	6.43	5.09	5.76	8.10	7.13	5.87
2000	4.93	7.59	6.93	5.89	4.73	7.70	6.44	5.53	5.74	7.75	7.13	5.87
2001	4.64	7.38	6.89	5.57	5.00	7.64	6.68	5.19	5.68	7.85	7.13	6.00

TABLE 4 Change in distribution of annual average workdays per female laborer in different sectors (for employment within Wanzhou District).

	Host inhabitants in Lishu Village			Local inhabitants in other villages			Migrants		
	Agricultural	Non-agricultural	Total workdays	Agricultural	Non-agricultural	Total workdays	Agricultural	Non-agricultural	Total workdays
1997	138.6	115.9	254.5	173.4	16.6	190.0	–	–	–
1998	106.1	117.7	223.8	166.4	23.3	189.7	–	–	–
1999	83.8	101.0	184.8	150.5	38.6	189.1	185.8	55.0	240.8
2000	90.1	95.6	185.7	150.3	51.0	201.3	83.2	73.8	157.0
2001	79.0	105.7	184.7	169.3	26.9	196.2	74.9	58.8	133.7

lage decreased greatly, and the capacity of the agricultural sector to absorb labor declined.

Despite the positive role of urbanization and resettlement in promoting shifts of agricultural labor to industry in the non-agricultural sector, the foundations of local industry are weak, and its capacity to absorb labor is limited. Although employment outside Wanzhou District is a growing trend (see Table 1), laborers are poorly educated. There is a gap between those employed in the agricultural sector and those employed in the non-agricultural sector, in terms of average years of education per laborer (Table 3), which makes it more difficult for agricultural laborers—particularly those who leave their former occupation—to transfer to industry on a large scale. This analysis indicates that rural inhabitants affected by urbanization and resettlement are suffering from the effects of an increasingly serious labor surplus.

Impacts on employment among women

An investigation of employment among women (Table 4) revealed that the annual average number of workdays per female laborer for host inhabitants in Lishu Village and local inhabitants in other villages was 254.5 and 190.0, respectively, in 1997, while the figures for 2001 were 184.9 days and 196.2 days, respectively. The annual

average number of workdays per female laborer for migrants was 240.8 in 1999, but only 133.7 in 2001. While the change in annual average workdays per female laborer for local inhabitants in other villages was relatively small in the period of investigation, the number of annual average workdays per female laborer for host inhabitants in Lishu Village and for migrants directly affected by urbanization and resettlement declined continuously.

Compared with male laborers, female laborers have been more affected for the following reasons: jobs in the non-agricultural sector generated by urbanization and resettlement usually require laborers to have considerable physical strength. Given women's disadvantages in terms of physical strength, many new jobs are taken up by male laborers. There is also a considerable educational gap between female and male laborers. In 2001 the average number of years of education for male migrant laborers and male laborers among host inhabitants in Lishu Village was 7.13 and 6.89 respectively, while for females the figures were 6.0 and 5.57 years, respectively (Table 3). Their relatively low educational level may make it more difficult for female laborers to shift from agriculture to the non-agricultural sector.

Moreover, women do more domestic work than men so they have greater difficulty leaving their homes to find jobs in the non-agricultural sector. Hence

women have to do more agricultural work, especially domestic livestock production. When there is less cultivated land, with a corresponding decline in the need for labor, female employment is more heavily affected. Although migrants possess more cultivated land than host inhabitants in Lishu Village, it is not suitable to develop domestic livestock production in their new houses, which are planned in accordance with the resettlement scheme (Figure 4). Although it is convenient for them to engage in trade and services, the capacity of local markets to absorb more laborers in these sectors is limited. Female migrant laborers thus encounter greater employment challenges.

Conclusion and implications

Urbanization and resettlement in the TGR area is triggering a shift of rural laborers to industries in the non-agricultural sector. This can have negative impacts on employment of rural laborers—especially for female laborers—causing a greater surplus of rural labor. The main reason is that the TGR area is in its initial phase of urbanization, and the driving mechanisms are non-conventional. The weak industrial foundation cannot provide enough jobs for rural laborers during the transition period. In addition, laborers, especially women, are not well educated, so they cannot meet the demand of urban industries for quality labor.

In order to reduce the negative impacts of urbanization on employment of rural laborers and foster the

FIGURE 4 Rural migrant resettlement area in Changling Town. (Photo by Liu Shaoquan)



transition of surplus rural laborers to the non-agricultural sector, several issues need to be addressed. First, in making policy decisions to promote urbanization, the foundations of the industrial sector should be fully considered. Consideration must be given to whether or not industry can provide enough jobs for rural laborers. Since the TGR area is now still in the initial stages of urbanization and many migrants need jobs, development of the industrial sector, especially in the TGR area, should be promoted in order to increase its capacity to absorb surplus rural labor. In the meantime, it will be necessary to enhance technical education in the area to improve the skills of rural laborers, especially women, so as to meet the demand of new industries for quality labor.

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REFERENCES

- Bromley R, Gerry C.** 1979. Who are the casual poor? In: Bromley R, Gerry C, editors. *Casual Work and Poverty in Third World Cities*. New York: Wiley.
- Carter H.** 1975. *The Study of Urban Geography*. London: Edward Arnold.
- Castells M.** 1979. *The Urban Question—A Marxist Approach*. London: Edward Arnold.
- Chen G, Li D.** 1996. Employment posture and its countermeasure in the Three Gorges Reservoir Area [in Chinese with English abstract]. *Acta Geographica Sinica* 51(2):97–103.
- Gu C, Huang C.** 1999. Study on resettlement and reconstruction of cities in the Three Gorges Reservoir Area [in Chinese with English abstract]. *Resources and Environment in the Yangtze Basin* 9(4):353–359.
- Johnston RJ.** 1984. *City and Society: An Outline for Urban Geography*. London: Hutchinson.
- King LJ, Golledge RG.** 1978. *Cities, Space, and Behavior: The Elements of Urban Geography*. Englewood Cliffs, NJ: Prentice-Hall.
- Liu S, Chen Z, Chen G.** 2001. Effect of urbanization and immigration upon the rural social and economic environment in the Three Gorges Project Area [in Chinese with English abstract]. *Resources and Environment in the Yangtze Basin* 10(6):504–509.
- Northam RM.** 1979. *Urban Geography*. New York: Wiley.
- Wang E.** 1996. Some views on migration and employment of the Reservoir Area of Three Gorges [in Chinese with English abstract]. *Acta Geographica Sinica* 51(2):104–107.
- Yang D.** 1995. A discussion on the migrants from villages of the Three Gorges Reservoir to be resettled in cities and towns [in Chinese with English abstract]. *Resources and Environment in the Yangtze Basin* 4(3):209–215.