

The Colonized Thirst: Rural-Urban Divide and the Rural Drinking Water Problem in North China

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ABSTRACT—*Tracing the history of drinking water supply in a North China Village, this article attempts to examine the drinking water problem in rural China in the context of the rural-urban divide in the past six decades of the Communist rule. It finds that the rural-urban divide implemented by the Chinese Communist government, as an internal colonial system, facilitated the capital drain out of rural communities and deprived rural communities of the means to improve their drinking water supply system. There also existed a kind of environmental internal colonialism, which helped to channel water resources from rural areas to urban centres, with the benefits from the human engineering of the environment reaped by the urban sector and the negative effects left to the rural sector. All these factors contributed to the lack of improvement in drinking water supply in rural China in the past six decades.*

Key words— drinking water, internal colonialism, rural-urban divide, rural China,

1. INTRODUCTION

According to a recent report, a 2009 survey by the Chinese government has revealed that there were still more than 300 million rural residents without access to safe drinking water in China (38). That means almost half of the rural population was still faced with drinking water problem.¹ It should be noted that this was after almost four years of enormous investments by the government in rural infrastructure as part of the so-called “New Socialist Countryside Construction,” a project launched by the Chinese government in 2006 to narrow the gap between the rural and urban areas. The situation before that should have been much worse. In contrast, urban water supply systems had covered 90% of urban population by 1998 and that ratio had risen to 94.7% by 2008 (26). That means 94.7% of urban population had access to treated sanitary drinking water by 2008. During the past decades, China’s fast development has impressed the world, but why are drinking water problems still plaguing rural China? Given the sharp contrast between rural and urban sectors in access to sanitary drinking water, how has the Chinese system of rural-urban divide affected the different access to sanitary drinking water between rural and urban residents? These are the questions to which this essay tries to find answers.

The rural drinking water problem in China has been the topic of many scholarly works. It has been found that in many places, people have to drink water that is unsanitary, and in other places, even unsanitary water is not easily available (2, 4, 6, 9, 11, 23, 25, 27, 41, 42). In examining the rural drinking water problem, most scholars see the lack of appropriate facilities as an important cause for the drinking water problem (2, 4, 6, 11, 27). Lv (27) surveyed three villages in South Eastern China and found that in these three villages, there were no facilities for water treatment and thus the quality of the water was not guaranteed. Duan (11) examined rural drinking water in Luodian, Guizhou and found that pollution caused by agricultural and industrial production compromised drinking water quality in the area. . Chen F. et al. (6) found that 87.27% of drinking water supply facilities in rural areas of Shijiazhuang, the provincial capital of Hebei province, did not have water treatment equipment. Some scholars went further to explore the social factors behind the lack of proper drinking water supply facilities. Muldavin (28), based on his research in three villages in Henan, found that decollectivization in the reform era reduced communal capital and hence limited the village’s capability to provide public goods, such as potable water. Yang et al. (42) showed that rural poverty was directly related to unsanitary drinking water. In spite of these efforts, most of them have not taken into consideration the difference in

¹ The 2010 Population Census has found that the total rural population in China is 670 million (29).

access to sanitary drinking water between rural and urban residents, thus neglecting the most important socio-economic factor that might have contributed to the drinking water problem in rural China: rural-urban divide. In talking about contemporary rural-urban divide and its impact on rural residents, most scholarly works deal with one or more of the following aspects of inequality between rural and urban sectors in China: income disparity between urban and rural residents (10, 19, 20, 34, 35, 43, 44), difference in access to education and health care (1, 13, 18, 32, 40, 45) and institutional and non-institutional discriminations against rural residents who migrate to cities (7, 12, 15, 21, 22, 30, 36, 47, 48). There has been little literature on how rural-urban divide has affected the human exploitation of natural resources, such as water.

This essay is an attempt to examine how rural-urban divide affected human exploitation of water resources for drinking water, one of the most essential needs of human beings. Tracing the history of drinking water supply in Song Family Village in north China from the late 1940s to 2006 and the impact of rural-urban divide on the village community, this essay argues that the rural-urban divide established by the Chinese Communist State has been actually an internal colonial system, which has turned rural residents into colonial subjects upon whom the State imposed numerous levies, taxes and other duties but for whom the State provided few services. This internal colonial system has affected drinking water supply in the village in two ways: it has facilitated capital transfer from the rural to the urban, leaving the rural communities little means to improve their infrastructure; it has also played an important role in human engineering of water resources, diverting surface water to urban sectors. This has increased the expenses for the exploitation of water resources, deteriorated the quality of water available and led to environmental problems.

This essay is a result of almost ten years of ethnographic research in Song Family Village, a community with a population of about 1500 now, located in southern Hebei Province, China. When I first did my fieldwork there for my dissertation in 2002, I learned of the controversy around the drinking water supply in the village. I collected information about the history and contemporary situation of drinking water supply in the village through interviews with villagers and my observation of access and use of water in everyday life. After that, I have been tracing changes in drinking water supply in the village and its neighbouring villages. My most recent field trip in June 2011 focused solely on the drinking water problems and filled in many gaps in my previous data about drinking water supply in the village.

2. Rural-Urban Divide as an Internal Colonialism²

As an important feature of the People's Republic China, rural-urban divide has been examined by numerous scholarly works. Scholars have traced the origin of this rural-urban divide to three important policies of the Chinese Communist Government during Mao's time: Unified Procurement and Unified Sales for important agricultural products (UPUS), Collective Farming, and the Household Registration System (20, 39, 43). The UPUS that was adopted in the early 1950s closed markets for major agricultural products and forced peasants to sell their products only to the State at low prices (31, 43). This helped to transfer "a total of 543 billion *yuan*³ of surplus away from agriculture through suppressed agricultural prices between 1955-85" (43). The collective farming, implemented in 1956, put farmers under the management of officials appointed by the government and was used as a convenient institution to maintain this scissors price policy (31). The Household Registration System divided all residents into two categories: rural and urban, excluding rural residents from any welfare provided by the State while imposing on them many obligations and duties (37, 39). Even though the Post-Mao Reform brought about some changes, the Household Registration System has not been abandoned yet, still excluding rural residents from many benefits while subjecting them to many obligations not shared by urban residents (37, 39, 43).

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Those studies have provided useful perspectives for analyzing the role of rural-urban divide in the drinking water problem in rural China. But the Chinese version of rural-urban divide has its own distinctive feature that distinguishes it from that in other developing countries. It has been an exploitative system intentionally installed by a powerful State to

² The concept of "internal colonialism" has been used by many scholars and social activists to refer to different kinds of unequal and exploitative relationship between different parts within a single society. It has been used to describe the position of ethnic diasporas in the United States (3, 8) and the unequal development within Latin American countries (5). Hechter (16) also used it to explain underdevelopment of Celtic regions within the United Kingdom. Even though this concept is most frequently applied to the cases whereby cultural differences are the bases for such an inequality, Goudner's study has shown that such an exploitative relationship can also exist in a society where different sections of the society have little cultural difference.

³ *Yuan* is the basic unit of the Chinese current RMB. The exchange rate has varied from time to time. The current exchange rate with US dollars is approximately 6.2:1.

pursue its own political and economic agenda. Such a system was maintained with violence and coercion. That makes it very similar to a system of rural-urban division that once existed in the Soviet Union (14).

In his article “Stalinism: A Study of Internal Colonialism,” Alvin Gouldner applies the concept of “internal colonialism” to describe a similar unequal relationship between the rural society of peasants on the one side and the urban elites represented by the Bolshevik Party State and its urban supporters on the other side in Russia. The Bolshevik regime used legal and formal institutions to discriminate against peasants, seeing peasants not as part of the moral community of the Bolshevik regime (14). A “passport” system helped to set a solid boundary between peasants and urban residents. Crossing the boundary was made extremely difficult. The Party State permitted a deliberate strategy of exploitation in the form of unequal exchange with peasants and when this unequal exchange encountered resistance from peasants, the *State* showed no hesitation in using terror and violence to maintain this exploitive exchange relationship (14).

With the similarity between the Chinese and the Soviet systems of rural-urban divide, there is no reason why the metaphor of “internal colonialism,” which has been so well used in revealing the nature and dynamics of the Soviet rural-urban divide, cannot be applied to the Chinese case. Better at revealing the institutionalised exploitative and coercive nature of such a system, this metaphor will help us to understand how it has affected lives of rural residents, specifically their access to drinking water.

3. HISTORY OF DRINKING WATER SUPPLY IN SONG FAMILY VILLAGE

Song Family Village is located in Southern Hebei Province, where the North China Plain is reduced to a narrow belt delimited by the Taihang Mountains to the west and the Bohai Sea to the east. With a temperate continental monsoon climate, the average annual precipitation is 520 mm, concentrated in the months of July and August (17). Precipitation varies from year to year, bringing flood in some years but drought in other years.

Song Family Village sits in an area that used to be a lake on one of the ancient courses of the Yellow River. The Yellow River changed its course about 900 years ago and the lake gradually dried. In place of the Yellow river were several minor rivers, fed by water from rain, melting snow and also the springs at the foothills of the Taihang Mountains.

In the first half of the 20th century, villagers relied on a well in the middle of the village for drinking water. People could fetch water with buckets directly from the well and carry home on shoulders with a carrying pole. With the simple technology, there was little need for maintenance during the decades the well was in use. Sunk in the early 20th century, this well provided sufficient freshwater for villagers until 1966 when an earthquake destroyed it.

After the well was destroyed, the village community did not have means to have another well sunk for drinking water supply, even though several wells were sunk for irrigation. The only sources of water were several ponds at the outskirts of the village. Every summer when it rained, water just flew out of every house and ran along the streets and emptied into these ponds, gathering along the way all kinds of trash, animal droppings, and whatever dirty things left on the street.

Even the unsanitary pond water was not very reliable. In non-rainy seasons or in a dry summer, there would be very little water left in the ponds. Sometimes all the ponds would be dry. Irrigation wells had to be used to pump water into the ponds. Though the water out of the wells was of good quality, it will soon be as dirty as rainwater in the ponds.

To solve the drinking water problem, the village once tried to set up a new drinking water supply system in the mid 1970s. A well to the east of the village was used to provide water. Two water storage cisterns were built along the main street of the village, connected with pipes to the well. But this system did not work long. The well lay in a place much lower than the middle of the village. It was costly to send water to the cisterns through the pipes.

The village still mainly relied on pond water until 1990, when new village leaders wanted to solve the drinking water problem. To raise the funds, part of the farmland in the village was sold to individual households as house lots⁴. They had an old defective well in the village repaired⁵. Besides repairing the well, a huge concrete water tank was built in the middle of the village. Water was pumped from the well into the tank. A person was appointed to manage the well. Every morning, he would turn on the pump and get the water tank filled. People could carry water home from the tank with buckets or water wagons.

Villagers were glad that the drinking water problem was finally solved. But this optimism did not last very long. The management of the well did not go as smoothly as supposed to be. The well frequently broke down. Whenever this happened, the repair needed significant labour and monetary investment. Raising funds turned out to be very difficult.

⁴ Since the land was officially still collectively owned after collective farming was abandoned, the village government had the right to decide which piece of land could be zoned for residential buildings.

⁵ In the early 1970s, the village had a well drilled in the middle of the village. It was found to malfunction immediately after it was completed. But it was not destroyed. The village leaders hoped that it could be fixed in the future. But there had never been any effort at fixing it before the early 1990s.

Even paying the power bill for the well became a problem. When power bills were not paid or the well was not repaired because of lack of money, the well stopped to function. Villagers had to rely on pond water again.

In 1996, the Chinese national government subsidized projects that helped to improve rural drinking water supply. As one of the villages that had great difficulty in drinking water supply, Song Family Village was given a small sum of money, with which the village had a new well drilled to the north of the village. But the village had to pay the expenses for the equipment. This would cost much more than drilling the well. The village government did not have any public funds. Collecting money from individual families was almost impossible. Unable to raise the funds, the village leaders finally decided to rent out the right for managing this new well. Whoever won the right needed to finance the equipment and future maintenance. Villagers were no longer allowed to fetch water from the well for free. The well manager would have water delivered to door, but villagers had to pay a fee for that service.

Even though privatizing drinking water facilities solved the problem of the availability of drinking water, it could not guarantee the quality of the water provided. The water from the wells was never tested whether it was suitable for human consumption. The private managers did not have the facilities to treat the water before delivering it to customers. According to many reports, water from wells in many places around Song Family Village contains a high percentage of fluoride, (49) which was harmful to human health. The negative effect of drinking such poisonous water has already shown in some people. Even if the water out of the well was of good quality, it could be polluted in the process of delivery. So even though the availability of water was solved, the quality of the water was still not guaranteed.

4. RURAL-URBAN DIVIDE AND CAPITAL DRAIN FROM THE RURAL SECTOR

From the above descriptions, one might see that one of the most important factors that have prevented the village from improving their drinking water supply was the lack of sufficient economic capital. Collective farming was supposed to do a better job at improving and maintaining public infrastructure with its assumed advantage of pooling resources. But drinking water supply in the village did not prove this advantage of collective farming. While villagers were able to raise funds to have a well sunk in the middle of the village long time before, the village did not have the capital to invest in a well for drinking water supply. One of the most important reasons for this was the capital drain from the village during the collective era. Song Family Village's experience has shown that collective farming did not bring much benefit to villagers, but was merely used by the government as a convenient tool for extracting capital from rural communities.

Like millions of rural communities in China, Song Family Village was subject to the Unified Procurement and Unified Sales System, Collective Farming and Household Registration System from the 1956 to 1982. The whole village was a single collective, led by cadres appointed by the government. After each harvest, they had to meet the needs of the State and the collective first. A large proportion of their products were "sold" to the State at very low prices. There were few ways to avoid it, because the disposal of their products was in the hands of cadres, who were supposed to be loyal to the State. The village were turned into a kind of internal colony of the State.

Cotton had traditionally been an important crop for Song Family Village and the most important source of income for many village families. Before the Communist came to power, most peasants would not sell their cotton directly on the market. Instead they would spin it into yarns or weave it into cloth. Such household handcraft industry enabled villagers to get higher returns from their crops of cotton and provided an important source of income for villagers. But under the Communist rule, the State took away almost all cotton after the harvest, paying a very low price. Cheap cotton was delivered to State-run textiles as raw materials. In this way, residents in Song Family Village were deprived of the profits generated by their cotton crops.

Staple crops also had the same story. After every harvest, contributions to the State granaries had to be fulfilled first. Only what was left could be divided among villagers. Part of the contributions was regarded as taxes and would not be paid for. For the part "sold" to the State, the prices were very low and cash returns were very limited. During much of the collective period, State payments for their agricultural products were Song Family Village's only source of revenues. Such payments were much less than they could have got if they were allowed to sell their products on the market. The difference between what they actually received and what they could otherwise have got from the market was taken away by the State.

Little of the capital generated by such an exploitative relationship was reinvested in Song Family Village. Even the village school was mainly financed by the village itself. Among the six teachers at the village school during the collective era, only two were on State payroll and the other four were paid by the village, while schools in cities were all financed by the State. Infrastructure in the village received no investment from the State either. In its relationship with the State, the village was reduced to the position of tribute payer. It received very little for what it paid. The State was only interested in how much it could extract from the village. The USUP system, the collective farming and the household registration system were all established to serve this purpose. The well being of the villagers was beyond the concerns of the State. What the powerful State worked hard to maintain was not simply a rural-urban divide, but an

internal colonial system that kept village communities as colonies of the powerful State. Such an internal colonial system enabled the State to extract the most profits that were otherwise impossible.

This internal colonial system ensured capital drain out of Song Family Village. It undermined Song Family Village's ability to accumulate public funds. Thus, when their old well was destroyed by the earthquake in 1966, they did not have the means to have another well sunk, even though they had done that decades before. This also explains their failed efforts to improve their drinking water supply in the mid 1970s. They just did not have the means to accomplish the job.

Even though collective farming was abandoned in the 1980s and the Universal Procurement and Universal Sales System was gradually abandoned by the 1990s, the Household Registration System still existed. Different tax systems and different access to resources between rural and urban residents still helped to ensure a net capital flow from the rural sector to the urban sector. As rural residents, villagers in Song Family Village still had a lot of obligations that urban residents did not have. One of these obligations was to pay taxes⁶.

An important tax that rural residents had to pay during the reform era was the agricultural tax. This tax was not levied on the basis of the actual rural family income, but on the acreage of the family farm. Rural residents had to pay it no matter how little they could earn from farming. When their income from farming was negative, they still had to pay this tax out of their income from other sources. Even when they abandoned their farm and took other trades, they still had to pay it as long as there was a piece of land registered under their names.

Rural residents also had to pay extra levies and fees for the public goods they received. In 1991, the State Council (the central government of China) published a regulation on levies imposed on peasants (33), giving a list of levies that local governments could legally collect from peasants. Not only did they have to pay for educational expenses, they also had to pay for expenses incurred by military training and family planning. That means that the State spent no revenues from legal taxes on any public services in rural areas. Farmers needed to pay for all public services even though they had already paid their taxes.

These were only the levies and fees permitted by the central government. The actual levies and fees sometimes far exceeded these. In Song Family Village, the extra fees were often several times that of the normal agricultural tax at the turn of the century. In 2002 when I did my fieldwork, the amount a family had to pay for one *mu*⁷ of land was a little less than 70 *yuan*, while the normal agricultural tax was only about ten *yuan*, according to villagers. These taxes and levies led to a net capital drain from rural areas.

These taxes, levies and fees were seldom invested in the improvement of rural infrastructure, but were taken away from rural communities to be used as salaries for urban residents or to pay for other expenses incurred in urban areas. For many families in Song Family Village, these taxes, levies and fees posed a heavy burden and forced them to guard their pockets jealously. As a result, raising funds for any improvement of infrastructure of a rural community was made extremely difficult. This was clearly shown when Song Family Village needed to raise funds to repair and maintain their well. Therefore, this internal colonial type of rural-urban divide was still key to understanding the problem of drinking water supply in numerous rural communities like Song Family Village.

5. ENVIRONMENTAL INTERNAL COLONIALISM, DRINKING WATER SUPPLY AND ENVIRONMENTAL HAZARDS

This internal colonial type of rural-urban divide in China during both Mao's time and the reform era was not only reflected in the capital drain out of rural communities, but also in human engineering of water resources. From the 1950s, the Chinese government initiated various projects to control river systems on the north China plain. The most important measure was to build reservoirs upstream of the rivers. The aim was to prevent floods in wet seasons and reserve water for use in dry seasons. During the past sixty years, more than one thousand reservoirs have been built in Hebei province, controlling the water flow of almost all rivers in this area (46).

Due to the adjacency to two of the most important cities in North China, Beijing and Tianjin, a large amount of water from reservoirs in Hebei Province was channelled to Beijing and Tianjin, even though farmers in Hebei needed water badly. Within Hebei Province, whatever left in the reservoirs was first allocated to local cities. There was little water left for farmers at the end of this allocating process.

Within 10 kilometres west of Song Family Village, there used to be several rivers full of water year round before the 1950s. One was even used as an important transportation route linking southern Hebei to Tianjin. One of the most important environmental benefits these rivers brought to this area was to recharge ground water. With top water aquifers

⁶ For a long time, urban residents did not need to pay any taxes in the People's Republic of China. During Mao's time, there was almost no income tax for urban residents. From 1980 to 2006, only monthly income over 800 *yuan* will be subject to income tax. In fact before the mid 1990s, few people's monthly salaries were over 800 *yuan*. Thus, most rural residents did not need to pay taxes.

⁷ It is a unit of area used in China. It is approximately equal to one sixth of an acre.

constantly recharged by these rivers, the water table remained stable. According to villagers, the well in the middle of the village was less than 20 meters deep, but it was always full of water. Before the 1950s, people could easily fetch water from the well using their buckets, according to villagers. But with surface water now diverted to urban centres, almost all the rivers remain dry most of the time of the year. The top aquifers in Song Family Village are no longer recharged by water from these rivers. Consequently, the water table has continued to sink. Now a well is usually 300 meter deep in the village otherwise it cannot provide enough water..

For many village communities, this meant that it became more and more expensive to drill wells. The deeper the well, the more it cost to drill a well and the more complex equipment was needed to make the well work. Maintaining such a well and its equipment was also expensive. The power bill had to be paid. Equipment had to be repaired from time to time. Someone had to be hired to take care of the well. These were the costs that previous shallow wells did not need. To a certain extent, this was the result of the environmental deterioration due to the overuse of water in urban areas. The benefits of over-exploitation of natural water resources were reaped by the urban sector, but the burden of the consequences of environmental deterioration had to be undertaken by rural residents, who had the least income. We can call this system an environmental internal colonialism. It was one of the reasons why it was difficult for village communities to maintain and improve their water supply systems.

This environmental internal colonialism has not only made it difficult for rural residents to obtain sanitary drinking water, it has also brought about serious environmental hazards in rural areas. With little surface water available, many rural communities, like Song Family Village, have to rely on ground water. The over-exploitation of ground water and the lack of surface water to recharge the ground water have already created several large ground water depression cones in rural areas on Hebei plain(24), on which Song Family Village is located. If this environmental colonialism continues, this situation will get worse and worse in the future.

6. CONCLUSION

The problem of water supply in rural China has provided a valuable case for the study of the dynamic relationship between drinking water supply and social, economic and political inequalities. While Song Family Village could manage to have a well sunk in the middle of the village before the Communists' ascent to power and had reliable drinking water supply for decades, after the well was destroyed by the earthquake in 1966, neither the socialism during Maoist era nor the free market economy during the reform-era had helped to provide reliable good-quality drinking water for villagers. During both the two eras, the problem of drinking water supply was closely related to the rural-urban divide implemented by the Communist State. The government policies turned the rural sector into an internal colony. Although this internal colonial relationship took different forms in these two different eras, it always helped extract capital out of the village and transfer it to urban areas. As a result, the village never had the means to improve their drinking water supply.

This inequality was also reflected in the two sectors' relationship with the environment. Since the 1950s, many hydraulic projects were accomplished. Water was channelled away to urban centres. Ground water could no longer be recharged by water from rivers. Water table has continued to sink. Heavy pollution rendered water from the upper aquifers undrinkable. These all meant more costs to rural residents if they wanted good-quality drinking water. While the benefits of these projects were reaped by the urban areas, the negative effect of these projects had to be undertaken by rural residents. Such an environmental internal colonialism was also a very important cause for the drinking water problem in rural China.

The present effort of the Chinese government to modernize rural China can be seen as an attempt to decolonize the rural sector. A new project launched in 2006 successfully solved the drinking water problem in Song Family Village. This can be seen as a successful start of this decolonization process. But it does not mean that people in Song Family Village will immediately achieve equal status to urban residents. As in any colonial system, the inequality between the two sectors is so entrenched that there is still a long way to go before reaching the final goal of removing the barrier between rural and urban sectors. But to achieve this final goal, a good understanding of this system of inequality is indispensable.

Even though the decolonization process has begun, there have not been any changes in the environmental internal colonial policy. Water resources are still being diverted from rural areas to urban centres. With more and more ground water being exploited, the environmental problem continues to worsen. To solve the problem, this environmental internal colonialism needs to be changed. Especially in the future South-to-North Water Diversion Project, more water should be allocated to rural areas. That will ease the need to exploit ground water.

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