

Population Change, Water Consumption and Environment in the Upper Heihe River Basin

OZAKI, Takahiro
Kagoshima University

This article will reveal the formation process of population composition, today's water consumption pattern and environmental issues acknowledged by local people including government officials of Xiang level in the upper Heihe river basin, especially focusing on cases in the "uppermost area".

As usual, Heihe is discussed in 3 areas; upper, middle, lower. As for mainstream Heihe, "the upper Heihe river basin" covers the area upper than Yingluoxia gorge, where Heihe flows into the oasis area of Hexi corridor from Qilian mountain range, and "the lower Heihe river basin" covers the area lower than Zhenyixia gorge, where it flows into the desert area of Inner Mongolian Autonomous Area. This viewpoint coincides with that of people in Hexi corridor, that is, "the middle".

But from the viewpoint of "the upper", especially in socio-cultural context, we can distinguish two separate areas as to following criteria.

1. Topographic features: though this is not a socio-cultural phenomenon, but it can affect the pattern of land-use. As there is only one place where Heihe crosses Qilian mountain range from south to north, so at the south, Heihe and its major branch Babaohe flow along with the run of the mountains, shaping plains that can be utilized as farmland if altitude is relatively low. In contrast, at the northern slope of Qilian mountain range, Heihe and its branches flow in steep valleys and make little plain.
2. Administration: today divide of Qilian mountain range is the provincial border between Gansu and Qinghai. Historically, today's border was confirmed in the later 1950's. But anyway, difference in provincial attribution acts as a very important limiting factor in policy implementation or migration of peoples.
3. Ethnic groups and migrants: the lower and upper Heihe river basin is domicile of minority groups. In such areas of China, ethnic conflicts between minorities as natives and Han Chinese as newcomers are noticeable issues in usual. But as mentioned later, the situation is different in the western part of Qilian prefecture of Qinghai where a lot of immigrants were also minorities and it is even suspicious whether natives in a strict sense exist now.

Of course, the borders marked off by these criteria do not completely overlap. So it is still difficult to mark off “the uppermost area” by a clear-cut border from “the upper”. But anyway, the western part of Qilian prefecture, which is equivalent to Yeniugou Xiang and Zamashi Xiang in an administrative context⁽¹⁾, can be said a central part of “the uppermost area” in that it fulfills all of the criteria and the riverhead of Heihe is located there.

As population change started from near zero in this area, it should have played a critical role in the changing process in mode of production and water consumption, which is the research target of anthropological group in Oasis Project. But as this area was once one of the main stages of border conflict between Gansu and Qinghai, none of local government has all of the materials concerned. So, reconstruction of population changing history in the area has rather significance.

Information sources are as cited below. Each of them has respective features.

1. Field research data in 2002-2004: in general, interviewees can retrace 3 generations at the most.
2. Statistics and materials collected from local governments: surviving materials are usually after 1980's, and reliability should be taken into consideration.
3. Published matters purchased in the area: on one hand, discourses concerning before 1949 are usually along the line with ethnicity, so it is difficult grasp spatial distribution. On the other hand, discourses concerning after 1949 are usually along the line with administrative units, although changes of administrative area are rarely mentioned.

In short, they are fragmentary respectively. Hereafter, total image of population change in the area will be shown as a consequence of integration and cross check by the author.

Establishment of Yeniugou and Zamashi Xiang was not so old. According to “Annals of Qilian prefecture”, Zamashi xiang was established in September 1951, and Yeniugou was first established as a village of Zamashi in March 1953, promoted to Xiang in September 1958 (QXBW 1993:19-25, 50-51). Then, how was the situation of this area?

1. In early days of the liberation, rump of Guomindang army hid out in mountainous area. After their 3rd invasion failed in 1951, some of them refuge in Yeniugou. Fight with the rump continued until 1953 (QXBW 1993:411,550).
2. In 1945, 60 Haixi Mongolians immigrated to Yeniugou in response to ethnic conflict (QXBW 1993:503).
3. In 1937, Yugurs moved into Yeniugou and Huangzangsi for pastoralism (QXBW 1993:17)

4. Pests broke out 5 times 1928-38. Among them, at Zhaobishan⁽²⁾ of Yeniugou, many sufferers died and few survivors emigrated to other places (QXBW 1993:481).
5. In 1929, Salars and Tus immigrated to Gezidong, Hedong, and Hexi for cultivation one after the other (QDBW 1999:336).
6. In 1929, 40 households of Gonghe Tibetans immigrated to north coast of Zamashi river. They started sedentary pastoralism and cultivation by permission of Alik Thousand Households (QXBW 1993:499)
7. In 1928, some Tibetan households of Alik Thousand Households (today's Arou Xiang) disfavored taxation and fled to Yeniugou, but were killed by Ma Bufang's soldiers (QXBW 1993:499).
8. In early days of Minguo, Gangcha Tibetans built a Buddhist temple in Youhulu of Yeniugou (today's southeastern part of Yeniugou Xiang), but was destroyed later in ethnic conflict during Minguo (QXBW 1993:510-511).
9. In 1901, 20 households of Tibetans from eastern part of Qinghai immigrated to Zamashi, got right of residence from an incarnation of Datong (QXBW 1993:499).
10. In 1895, Huis started immigration into Babao (today's prefectural center of Qilian) from Datong and Mengyuan (QXBW 1993:506).
11. In 1723, Mongolians built 2 Buddhist temples in babao (QXBW 1993:510).

From above information, we can know that the immigration, which brought about today's population composition in western part of Qilian prefecture, started only 100 years or so, and that among others Yeniugou was such a remotest place that stragglers and escapees fled to.

On the other hand, from the viewpoint of Sunan Yugur Autonomous Prefecture in Gansu Province, the reality looks a little different. In folk story of Yugurs, today's Yeniugou is mentioned as Bazidun (GB 1987:32-33). Sunan Yugur Autonomous Prefecture also regarded Bazidun as its domain at the time of its establishment. According to research reports of 1940's, we can infer that among subgroups of Yugurs, 15 households of Yanggejia out of total 47 households 229 people and around 200 people of Mantaibu lived in the southern slope of Qilian mountain range (Gao & He 2003:89,99-100; MZWD 2002:520).

But compared to 3136 people of Yeniugou Xiang in 2003, the population of Yugurs at that time was quite little. Additionally, as heartland of Mantaibu was located in northern part of today's Babao Xiang, so it is hard to imagine that all members of Mantaibu utilized Bazidun that is far westward from their heartland. Moreover, it is easy to find out a place name which originated in the language of former dweller. Taking it into consideration, change of the place name from Bazidun to Yeniugou might reflect

weak presence of Yugurs in local society of the time.

The most important issue which affected the process of population change in the uppermost area was border conflict between Gansu and Qinghai through 1950's and large-scale migration attached to it. The prehistory and whole process of the issue was as following.

In 1929, Qinghai province was separated from Gansu, and the border was decided along the midrib of Qilian mountain range. But none of the province controlled the area effectively, and Ma military clique governed both provinces for a decade before establishment of P.R.C., so the border existed only in name (Gao & He 2003:166).

In 1954, the situation changed. At that year, National Graphic Publisher in Beijing published "Map of administrative district in P.R.C.", where the border between Gansu and Qinghai was set down on the midrib of Qilian mountain range. As it had legal force, Bazidun which was located at southern slope of Qilian mountain range was acknowledged as domain of Qinghai by the state (Gao & He 2003:150,157). At that time, as troop had just wiped out rump of Guomindang army, the authority of Qinghai gave silent approval of migration of pastoralists into Yeniugou area.

This border conflict was settled in August 1955. At that time, Gansu and Qinghai agreed that the border was decided along Heihe for the moment (Gao & He 2003:151). But in 1958, as a nuclear site was established at Haiyan prefecture that was adjacent to Qilian prefecture, 1752 immigrants flowed into Yeniugou and other Xiang in Qilian prefecture. This incident changed the number and composition of population Yeniugou drastically.

At the conference to adjust this issue held at Lanzhou in October 1958, deputation of Qinghai insisted the border of "Map of administrative district in P.R.C." (Gao & He 2003:151), so Gansu provincial government felt that withdrawal from the south slope of Qilian mountain area could not be avoided. Under such circumstances, Gansu province decided to displace whole population of Sunan Yugur Autonomous Prefecture to Huangcheng pasture which was located eastward from the original place (Gao & He 2003:151-152).

In the end, this plan was aborted by the order of Chinese Communist Party headquarters. But as to the uppermost area of Heihe, because Yugurs already moved to the north slope of Qilian mountain range, and people from other area had once immigrated into Yeniugou, the border was finally decided along the midrib of Qilian mountain range, confirming the actual situation. After that, border conflict did not happen, but even now, informants of Yugurs in Gansu part of the area argue that pastoralists from Qinghai part often cross the border for herding due to growth of

population as a result of large-scale migration in late 1950's.

Although it is impossible to demonstrate detailed figure by respective Xiang as we have not gotten materials for such purposes, population of Qilian prefecture as a whole changed as following; 8023 (1st population census in 1953), 19140 (2nd population census in 1964), 36405 (3rd population census in 1982), 42392 (4th population census in 1990) (QXBW 1993:107; QDBW 1996:74). Annual growth rate of population is 8.25% (1953-64), 3.64% (1964-82), and 1.92% (1982-90) (GT ed. 1989:88).

On the other hand, population growth rate of China at large, except 1958-61 when influence of Great Leap Forward was extremely severe, in the low 20‰ in 1950's and the former half of 1970's, in the high 20‰- the low 30‰ in 1960's, below 15‰ after 1976 (GT 1989:88). Taking it into consideration that Qilian prefecture is classified as minority area where family planning policy was imposed modestly, population change after 3rd population census can be taken roughly as the result of natural increase. In contrast, population change between 1st and 2nd population census was dominated by radical social increase, and even between 2nd and 3rd impact of social increase may be assumable to some extent.

As to mode of production and patterns of water consumption, we can point out that those are almost alike in an area regardless of ethnicity, although we can find out some traits which can be recognized as ethnic marker or characteristics of some ethnic group. According to the field data of the author in 2004, in Zamashi, 3 informants of Hui, Han, and Tibet who all admitted that they themselves are immigrants from Babao, Mingle, Huarong answered as following; they are farmers cultivating wheat, qingke barley, crucifer, and oat, at the same time herding livestock (sheep, cattle, horse) in transhumant way. They irrigate 1-3 times (depending on rainfall) a year, each time for 1.5 hours per mu, and water livestock 1-2 times a day, recognizing that a sheep drinks 3kg and cattle drinks 15kg a day. Their cropping calendar is basically the same and they have no idea about amount of water for domestic use, and so on.

In Yeniugou, although they are pure pastoralists who don't cultivate a field other than very small-scale (1 mu or so) fodder field, their recognition about amount of water livestock drink and they themselves use for domestic use, are the same with people in Zamashi, too. 3 informants of Yugur, Hui, and Tibet all agreed that their way of pastoralism including seasonal migration pattern was basically the same in direction and time.

Their recognition of water resource varies from place to place; people in Zamashi all feel that their water resource is affluent and not polluted. On the other hand,

people in Yeniugou all feel that they have long been short of water resource although it is not polluted, as in their summer pasture there is no permanent onflow of mainstream Heihe and have to go up to mountain for water. Even in their winter pasture, they have to utilize ice from Heihe or a small spring.

Their thoughts on environmental change also vary according to the inhabited area, though they all feel the situation not catastrophic anyway. In Zamashi, their concern on environment is only “stop cultivation to revive forest (grassland)” policy, which was imposed in 2002 but stopped later, as it had a severe impact on peasants’ life. In Yeniugou, its equivalent is improvement of grassland by grassland station, which accompanies enclosure of grassland for 3-5 years; in consequence amount of grassland pastoralists can utilize is on the decline.

Originally, Yeniugou is named after wild cattle (Yeniu) as a lot of them lived there; but they were put almost out of existence because of overhunting caused by starvation after Great Leap Forward. Besides, an informant pointed out decay of rainfall over recent 20-30 years, gradual increase of mice as use of mouse poison was prohibited, and increase of wolves as they are prohibited to hunt because of their status as protected animal. It is true that they feel their natural surroundings may be worsening, but if they emigrate anywhere, it is not because of natural factors but social factors such as remoteness or poor infrastructure.

In closing, what remains to be done in the future should be pointed out. First, a history of population change, water consumption and environment in the whole upper Heihe river basin must be written up; for this purpose, basic materials were obtained already. Second, a quantitative model of water consumption must be brought up; in doing it, some additional observational research especially for estimation of domestic water use may be required.

Notes

- (1) For more detail, see (Ozaki ND).
- (2) Zhaobishan is today’s Bianmacun village center in the eastern part of Yeniugou Xiang (QXBW 1993:52).

References

GAO, Zihou & HE, Hongmei

2003 *Total History of Yugur*. Gansu People’s Publishing Company (in Chinese).

GB (Editing Team of Gansu Province: Gansusheng Bianjizu)

1987 *Socio-historical Research of Yugur, Dongxiang, and Baoan*. Gansu Ethnic Publishing

- Company (in Chinese).
- GT (National Statistic Office: Guojia Tongjiju)
- 1988 *Statistical Yearbook of China 1989*. National Statistic Publishing Company (in Chinese).
- MZED (Research Room of Mongolian-Tibetan Committee: Meng Zang Weiyuanhui Diaochashi)
- 2002 "Research Report of the North Slope of Qilian Mountain Range", ZHONG Jinwen ed., *Corpus of Studies on Yugur in China*. Ethnic Publishing Company, pp.517-528 (in Chinese).
- OZAKI, Takahiro
- ND "Population change in the uppermost river basin of Heihe, Qinghai, China", *Kadai Shigaku* 53, printing (in Japanese).
- QDBW (Compilation committee for Qilian Local Annals: Qilian Difangzhi Bianzuan Weiyuanhui)
- 1996 *Yearbook of Qilian 1986-1994*. Qilian Prefecture (in Chinese).
- 1999 *Annals of resources in Qilian*. Lanzhou University Publishing Company (in Chinese).
- QXBW (Compilation committee for Annales of Qilian Prefecture: Qilian Xianzhi Bianzuan Weiyuanhui)
- 1993 *Annales of Qilian Prefecture*. Gansu People's Publishing Company (in Chinese).