Asian Ethnicity, Volume 1, Number 1, March 2000

Tibetan Population in China: Myths and Facts Re-examined

YAN HAO

(Institute of Economic Research, State Department of Planning Commission, Beijing)

China is not only the most populous country in the world, but also a multinational country with 56 ethnic groups. Tibetans (4.6 million in 1990) ranked in number as the ninth largest minority group. The Tibet question has attracted wide publicity in the Western media in recent years. The Chinese government is frequently criticised for political oppression and human rights violation in Tibet, particularly in three population-related areas: genocide, forced birth control programmes and population transfer. Surprisingly, international demographic circles show little interest in these controversies. This paper aims to re-examine the myths and facts about the Tibetan population in China, in an attempt to achieve a better understanding of the Tibet question as a whole.

This paper is organised roughly into four parts: introduction, including the definition of Tibet, total Tibetan population in China, an examination of the 'genocide' myth, and a review of family planning programmes and population transfer in Tibetan inhabited areas. Government data used in this paper come primarily from various publications of the 1990 National Census results. Information compiled by the Tibetan Government-in-Exile (TGIE), is used as a comparison, in addition to some other Western sources.

Analyses show that the 'genocide' myth is not supported by indirect estimates on Tibetan mortality, and the 'forced birth control' allegation lacks solid demographic foundation. On the contrary, Tibetan population has experienced an unprecedented growth since the early 1960s. Still dominant in the Tibet Autonomous Region (TAR), Tibetans were only slightly outnumbered by non-Tibetans in other Tibetan prefectures in neighbouring provinces. However, the number of non-Tibetans transferring into ethnographic Tibet is on the rise. Instead of explicit resettlement programmes, the migration flow is triggered primarily by structural transformation and the Government's modernisation policy. It is historic coincidence if the current policies run counter to the interest of Tibetan nationalists. However, under no circumstances should one believe that time is running out for a political solution of the Tibet question.

Introduction

China has long been a multi-ethnic country with Han Chinese being the majority. According the 1990 national census, minority populations totalled 91.3 million, accounting for 8.1% of the national total of 1,130.5 million. Tibetans (4.6 million) ranked in number as the ninth largest in 55 minority groups, only behind the Zhuang (15.6 million), the Manchus (9.8 million), the Hui (8.6 million), the Miao (7.4 million), the Uygurs (7.2 million), the Yi (6.6 million), the Tujia (5.7 million) and the Mongols (4.8 million).[1]

1 Population Census Office, State Bureau of Statistics (SBS), *Zhongguo 1990 nian renkou pucha 10% chouyang ziliao* (*10% Sample Tabulation on the 1990 Population Census of the People's Republic of China*) (Chinese Statistics Press, Beijing, 1991).

1463-1369/00/010011-26 © 2000 Taylor & Francis Ltd

The history of Han–Tibetan relations can be traced back as early as the Tang dynasty (618–907). Although there are conflicting arguments over whether Tibet became part of China during the Yuan dynasty (1206–1368), it is widely agreed that Tibet enjoyed *de facto* independence after the collapse of the Qing dynasty (1644–1911) from 1913 to 1951.[2] This period of uncertainty came to an end in 1951 with the entering (also referred to as 'invasion') of the People's Liberation Army (PLA) into Lhasa under the 17-point Agreement reached between the Communist government and the then Tibetan government (May 1951). According to the Agreement, Tibet's old political, economic and social structure remained largely unchanged in subsequent years, when a thoroughgoing socialist transformation was carried out in all other parts of China. However, this first trial of the 'one-country, two systems' policy proved to be short-lived. In 1959, an armed rebellion (or 'national uprising') in Tibet was swiftly and brutally suppressed, causing the Dalai Lama and the Tibetan government to flee into exile in India. In 1965 the TAR was formally established. Like other autonomous regions in China, the TAR was assured by the Constitution of equal and autonomous status. Nevertheless, policy implementation over the following decades went through a zigzag course. Tibetans had an especially hard time during the chaotic years of the Cultural Revolution (1966–76). In the late 1970s, the Chinese government finally shifted its attention from political struggle to economic development by adopting a series of market-oriented reforms. Additional affirmative action measures were introduced in Tibet to promote economic growth, social stability and *rapprochement* between Hans and Tibetans. It is an incontestable fact that, like other parts of China, Tibet has experienced considerable social and economic progress over the last two decades or so.

Ironically, as the government started to introduce a politically more flexible, economically more liberalised, and ethnically more sensitive policy in Tibet, street riots occurred once again in Lhasa in the late 1980s. In the climax of unrest, martial law was imposed in 1989—for the first time anywhere in the PRC—to restore peace and order.[3] Ethnic unrest in Tibet was given wide publicity in the Western media, and the Tibet question suddenly assumed far greater significance as a matter of international concern than had been the case before.[4] Among China's minority problems, Tibet has proved by far the most controversial internationally, even to the extent of putting China's diplomatic and trade relations with foreign countries at risk. So far, no government in the world challenges China's sovereignty over Tibet officially, but quite a number of Western politicians refer to Tibet as an 'occupied' land, and frequently criticise the Chinese government for political oppression and human rights violation in Tibet. Among the most serious allegations, three are related to population issues: genocide, forced birth control programmes and population transfer.

Compared with its high level of publicity in international politics, Tibet has curiously drawn little interest in the broad circle of demographers. From tens of thousands of entries in the computerised bibliography POPLINE (the October 1996 version), the largest database of information on population, family planning and related health issues, one can find only two research papers on Tibet written by non-Chinese authors. One of them is in Hungarian and not well known, the other by Goldstein and Beall.[5] No prominent journals in demography have paid special attention to the development of the Tibetan population, in contrast to the numerous papers devoted to China as a whole. Chinese demographers, on

2 See Melvyn C. Goldstein, *A History of Modern Tibet, 1913–1951: The Demise of the Lamaist State* (University of California Press, Berkeley, 1989).

3 Quite a number of plausible explanations for the irony can be found in Melvyn C. Goldstein, *The Snow Lion and the Dragon* (University of California Press, Berkeley, 1997), pp. 83–7.

4 For an account of the Tibet question as a matter of Chinese national concern since the late nineteenth century, when British and Russian forces tried to infiltrate the region, see Wang Lixiong, *Tianzang: Xizang de Mingyun* (*Sky Burial: the Fate of Tibet*) (Mirror Books, Hong Kong, 1998), pp. 55–106.

5 Melvyn C. Goldstein and Cynthia M. Beall, 'China's Birth Control Policy in the Tibet Autonomous Region', *Asian Survey*, vol. 31, no. 3 (1991).

the other hand, have given a great deal of attention to Tibetan population issues, but most of their works are published in Chinese, not easily accessible for academics and the general public overseas. As a result of excessive politicisation and lack of scholarly interest, the information about the Tibetan population in China available in the Western media is usually a mixture of myths, facts and, occasionally, simplistic playing with figures.

Goldstein was right to point out that the heart of the Tibet question is about 'control of a territory—about who rules, who lives there, and who decides what goes on there'. There is no international consensus about 'when a people is justified in demanding self-determination or when a multiethnic state has the right to prevent secession'.[6] For achieving a better understanding of the question, the author believes it is helpful to have a second look at Tibet's population issues from a different angle. Undoubtedly, the demographic factor has profound implications to a possible solution of the question in future.

Other than an introduction including a brief discussion of the definition of Tibet, this paper is organised roughly into three parts: total Tibetan population in China, an examination of the 'genocide' myth, and a review of family planning programmes and population transfer in Tibetan inhabited areas. Government data used in this paper come primarily from various publications of the 1990 census results. Information compiled by the Tibetan Government-in-Exile (TGIE), downloaded directly from their official website on the Internet, is used as a comparison, in addition to some other sources provided by Western authors. It is worth noticing that, owing to a lack of systematic population statistics and vital records in Tibet, both sides have been making extensive use of estimates to support their arguments.

Geographic location and reference period are as essential as population figures in conducting demographic analysis. The question raised by Goldstein and Beall in their paper: 'what and where is Tibet'?[7] is clearly a highly relevant one. Although it falls outside the scope of this paper, it must be mentioned that TGIE sources consider that the area of Tibet extends well beyond the present TAR, some maps even including the whole of Qinghai Province and its capital Xining. According to TGIE sources, there was, before the 'invasion', a place 'traditionally' known as Tibet, which consisted of three 'provinces', Amdo, Kham and U-Tsang, and covered an area of 2.5 million square kilometres, corresponding to the geological plateau of Tibet. Amdo is currently split into the provinces of Qinghai and Gansu, and Kham into Sichuan, Gansu and Yunnan. U-Tsang, together with western Kham, is referred to as the Tibet Autonomous Region (TAR). The current TAR comprises less than half traditional Tibet.

In several works, Melvyn Goldstein has adopted the terms 'political Tibet' and 'ethnographic Tibet'. The former is equivalent to the area ruled by the Dalai Lamas in modern times, as well as to the present TAR, while the latter term corresponds to the borderlands now incorporated into other Tibetan autonomous prefectures in neighbouring Chinese provinces. Goldstein concluded that most of the ethnic Tibetan areas that are now outside the TAR have been under separate administration for centuries.[8] The greater Tibet may be an ideal state of affairs to some Tibetans, but it is disingenuous to discuss regions such as Amdo as if they are or were part of Tibet proper. 'To lump statistics from other provinces with those of the TAR is deceptive and somewhat analogous to reporting on Mexico using examples from Mexico's "lost territories" of Texas and California.'[9]

---

6 Goldstein, *The Snow Lion and the Dragon*, pp. ix–x.

7 Goldstein and Beall, 'China's Birth Control Policy', pp. 285–303.

8 According to more detailed information provided by Goldstein, in 1728 three large ethnic Tibetan areas in Kham were placed by the Qing government under the jurisdiction of Sichuan and three others under the jurisdiction of Yunnan province. Amdo or Kokonor had already been placed under the jurisdiction of Xining in 1724. Goldstein, *The Snow Lion and the Dragon*, p. 16.

9 Goldstein and Beall, 'China's Birth Control Policy', p. 291.

The present author follows Goldstein in equating 'political Tibet' with the TAR. However, unless otherwise indicated, the Tibetan population in China is treated as a whole.

Total Tibetan population in China: Estimates and Census results

To conduct a scientific, full census is only possible in a modern society. In China, the first national census was conducted in 1953, followed by three subsequent ones in 1964, 1982 and 1990. Over the period, population statistics have become increasingly complete and reliable, thanks to continuous improvements in census methods.

Historical figures of the Tibetan population in China are not readily available. In previous literature, however, there are a number of estimates from different periods. According to two Chinese scholars, Sun Huaiyang and Li Xiru, the Tibetan population was about 2.8 million in the 1910s, down from 3.5 million during the mid-Qing period.[10] Bell, an English diplomat stationed in Lhasa in the 1930s, assumed the total Tibetan population was 4–5 million at that time.[11] Nevertheless, most estimates agreed that the Tibetan population was on the decline in the first half of the twentieth century. Citing unidentified historical sources, a TGIE report asserted that the Tibetan population was at least 6 million at the end of 1949.[12] The same source even quoted an official Chinese report in *People's Daily* (10 November, 1959) to support the 6-million figure, in spite of a 10-year difference from 1949 to 1959.

> According to China's State Statistical Bureau, the 'TAR' had 1,273,969 people in November 1959. Tibetan areas of Kham then named Xikang by China had 3,381,064 Tibetans. In Qinghai and other Tibetan areas incorporated into Gansu, Tibetans were reported to number 1,675,534. If the total of these three figures is taken, the Tibetan population then stood at 6,330,567.

For several reasons, these figures seemed suspicious. Notably, the TAR did not even exist in 1959, while Xikang was abolished in 1956. The Chinese government did not publish annual population statistics at that time, particularly extremely detailed breakdowns by region and ethnicity. Investigation by this author showed the citation above to be a fabrication. TGIE sources in the 1990s still claim the total number of Tibetans to be about 6 million, and this figure is quite possible if taken to include all Tibetans worldwide, not just those in China.

The figures for the total Tibetan population in China from four censuses are shown in Table 1, in relation to relevant national data. The Tibetan figures of the first three censuses are basically estimates, derived from household registration records and survey results. Inconsistency between these figures is unavoidable. In comparison, the 1990 figures are much more accurate, because they incorporate data from the first full census ever conducted scientifically and systematically in the TAR. Given the extremely harsh conditions, the relatively underdeveloped infrastructure and the unique cultural and religious factors in the TAR, conducting a full census is understandably an arduous task. According to the Regional Office of Census, as many as 8,727 interviewers, 1,481 supervisors and 5,707 local assistants (Tibetan 93% and non-Tibetan 7%) were involved in the fieldwork. Apart from regular household and individual records, the census also collected valuable information on nuptiality, fertility and mortality. All data-processing work for the TAR was completed locally in Lhasa. The double check procedure confirms that the census results of the TAR are quite reliable, with a duplication rate of 0.14 per thousand, a missing rate of

10 Sun Huayang and Li Xiru, 'Zhongguo Zangzu renkou de yanbian he xianzhuang' ('The Evolution and Current Situation of China's Tibetan Population'), *Zhongguo renkou kexue* (*Chinese Population Studies*), no. 51 (June 1995), pp. 35–9.

11 Charles Alfred Bell, *Tibet: Past and Present* (Oxford University Press, London, 1968), p. 8.

12 Office of Tibet, *Human Rights*, http://www.gn.apc.org/tibetlondon/WhitePaper/white5.html (1996).

Table 1. Population growth of selected ethnic groups, China, 1953–90[a]

	Total population (000)				Changes during census period (%)		
	1953	1964	1982	1990	1953–64	1964–82	1982–90
National total	582,603	691,220	1,003,913	1,130,510	18.64	45.24	12.61
Han	547,283	651,296	936,675	1,039,188	19.01	43.82	10.94
Ethnic minority total	35,320	39,924	67,245	91,323	13.04	68.43	35.81
Tibetan	2,775	2,501	3,848	4,593	− 9.87	53.86	19.36

[a]These figures are calculated from those given in Economics Department, State Commission of Nationalities, *Zhongguo minzu tongji, 1949–1990* (*Chinese Nationality Statistics, 1949–1990*) (Beijing, Chinese Statistics Press, 1991) and Economics Department, State Commission of Nationalities, *Zhongguo minzu tongji, 1992* (*Chinese Nationality Statistics, 1992*) (Beijing, Chinese Statistics Press, 1992).

Table 2. Selected demographic indicators of selected ethnic groups, China, 1990[a]

Ethnic group	Infant mortality rate (1/1000)	Life expectancy	Proportion 0–14 (%)	Median age	Changes in women aged 15–49 (%)
Han	28.33	69.88	27.10	25.50	21.50
Minority all	59.48	65.16	34.48	21.75	54.04
Tibetan	92.46	59.67	35.80	21.30	27.00

0.12 per thousand, and a net error rate of 0.02 per thousand.[13] It is unlikely that anybody living abroad could achieve results even remotely as reliable. The coming fifth census, scheduled for 2000, is expected to produce even more accurate results about the total Tibetan population in China.

As shown in Table 1, the total Tibetan population in China stood at 2.8 million in 1953. It dropped by 9.9% to 2.5 million in 1964. This decline will be discussed in further detail in later sections. From 1964 to 1982, the Tibetan population rose by 53.9% to 3.8 million, at an average annual rate of 2.6%, this growth being higher than the national average (45.2%) but lower than that of minority groups as a whole (68.4%). In 8 years from 1982 to 1990, the Tibetan population increased by another 19.4%, reaching 4.6 million, including 2.1 million living in the TAR. During this period, Tibetan growth was relatively moderate and steady, compared with a decreasing trend in the national average (12.6%) and a continuous rise in total minority populations (35.8%). In 1990, Tibetans accounted for 0.4% of China's total population.

Contributing Factors to the Growth of the Tibetan population

The growth of the Tibetan population over the last few decades can be attributed to a number of factors: mortality decline, changes in age–sex structure, early marriage and high level of fertility.

As development proceeds, according to the classical theory of demographic transition, a population will experience a gradual transition from a stage of low increase to a stage of high increase, and back again to a stage of low increase. While the former low increase results from high fertility and high mortality, the latter is caused by low fertility and low mortality. In between, fertility remains at a high level while mortality drops sharply, leading to an unprecedented increase in total population. Clearly, the Tibetan population is now still at an early stage of population transition, characterised by falling mortality, high fertility, low median age and a large proportion of children and young adults, as illustrated with a triangle-shaped age–sex pyramid.

The onset of population transition is usually associated with a marked decline in infant mortality. Unfortunately, historical data on mortality levels of the Tibetan population in China are very limited. Dai and Feng estimate the 1959 Tibetan infant mortality rate (IMR) as 430 per thousand, and life expectancy as about 35.[14] The 1990 census provides detailed information about the patterns and trends of mortality among Tibetans for the first time in history. Over a period of about 30 years, as shown in Table 2, the Tibetan IMR dropped

13 Dorje Odu and Xi Jinsheng, 'Lun 1990 nian shijie wuji shang renkou pucha de tese' ('On the Unique Features of the 1990 Census on the Roof of the World)', in Sun Jingxin (ed.), *Dangdai Zhongguo renkou* (*Population in the Contemporary China*) (Census Office of the State Council, Beijing, 1992).

14 Dai Xinyan and Feng Zhanlian, 'Dui Xizang renkou yu jihua shengyu gongzuo de jidian sikao' ('A Few Opinions on Population and Family Planning Issues in Tibet'), *Renkou yu jingji* (*Population and Economy*) (March 1996), pp. 29–32.

from around 400 to 92 per thousand, and life expectancy nearly doubled from 35 to 60. That means that more Tibetans will survive today, thanks to the government's efforts to promote the people's health and living standards. However, compared with the similar indicators of other ethnic groups, there is certainly much room for further improvement in reducing mortality rates among Tibetans.

The age–sex distribution of the Tibetans is relatively even and smooth among people aged 30 and over. Substantial increases are observed in the 20–9 age cohort, indicating that during the immediate post-1959 period the Tibetan population experienced a phenomenal baby boom. Since the onset of demographic transition is still a recent phenomenon, the Tibetan population as a whole is still quite young, with a median age of only 21.3. Well over one-third of Tibetans (35.8%) were under 15 years of age. This implies that the growth potential of the Tibetan population will remain high for the foreseeable future. The growth momentum can also be explained through the changes in the total female population aged 15–49 from 1982 to 1990. Were a birth limit imposed on couples in 1990, the population as a whole would keep growing, simply because more and more young adults were entering the reproductive age.

Considering the fact that marriage in China is almost universal, and the proportion of ex-nuptial births is extremely low, the following discussion focuses mainly on the age at first marriage and the level of marital fertility (Table 3). Certainly, there are variations in patterns of nuptiality and ex-nuptial births by different ethnic groups. According to the 1990 census, the proportion of unmarried women in reproductive ages (15–49) was 28.1% among Tibetans. The proportion of those who had never married increased markedly in the older age groups, from 7.9% in the 50–4 group to 10.6% in group 60 and over. This phenomenon can be attributed to the unique social structure and religious tradition of the Tibetans in the pre-1959 period. On the one hand, the custom of polygamy was once practised in some Tibetan tribes. On the other hand, a large number of adult males, sometimes up to one-third of the total local adult males, practised celibacy and stayed in monasteries all their lives. For example, there were still 114,100 monks as late as in 1958, accounting for 9.5% of the total population in Tibet.[15] According to a 1949 record of Tibetan regions in the neighbouring Qinghai Province, there were 5,900 monks in a total population of 34,350 in Yushu County, and 7,890 monks in a total population of 21,000 in Nangqen County.[16] In 1994 the number of monks in the TAR was 42,500, or 2% of the total population,[17] still remarkably high by international standards. Nevertheless, as Mackerras points out, unattached women did not necessarily mean childless women in traditional Tibet.[18]

The age at first marriage has a considerable effect on fertility levels. Early marriage generally leads to early childbearing, not only prolonging women's reproductive lives but also reducing the mean generation length of the population as a whole. Within a limited time span, the more generations, the more women in childbearing age, the more births, and the higher the fertility. In traditional China, early marriage was a common practice. Late marriage has long been one of the major objectives of China's family planning programmes. The minimum legal age of marriage for women was set at 20 by the 1980 Marriage Law. In some pastoral regions of the TAR and Qinghai, the minimum age is only 18 for women

15 Dai and Feng, 'Dui Xizang renkou'.
16 Yang Fengchuan and Gong Qide, 'Qinghai gaoyuan Zangzu renkou de tedian' ('The Demographic Characteristics of the Tibetans on the Qinghai Plateau'), in Sun Jingxin (ed.), *Dangdai Zhongguo renkou*, pp. 805–19.
17 Wang, *Tianzang*, p. 334.
18 Colin Mackerras, *China's Minorities: Integration and Modernization in the Twentieth Century* (Oxford University Press, Hong Kong, 1994), p. 129.

Table 3. Selected nuptiality and fertility indicators of selected ethnic groups, China, 1989[a]

Ethnic group	Proportion of women married in cohort 15–19 (%)	Standardised birth rate (1/1000)	TFR	Proportion of births by parity 1–2	Proportion of births by parity 5 +
Han	4.31	21.33	2.30	81.80	1.98
Tibetan	11.37	32.63	4.07	53.50	21.03

[a]Reconstructed from figures given in Xiao Zhenyu, 'Shaoshu minzu shengyu zhuangkuang' ('The Current Fertility Situation of Ethnic Minorities') in Chinese Academy of Social Sciences Population Institute (comp.), *Zhongguo renkou nianjian, 1994* (*Almanac of China's Population, 1994*) (Beijing, Economic Management Press, 1994).

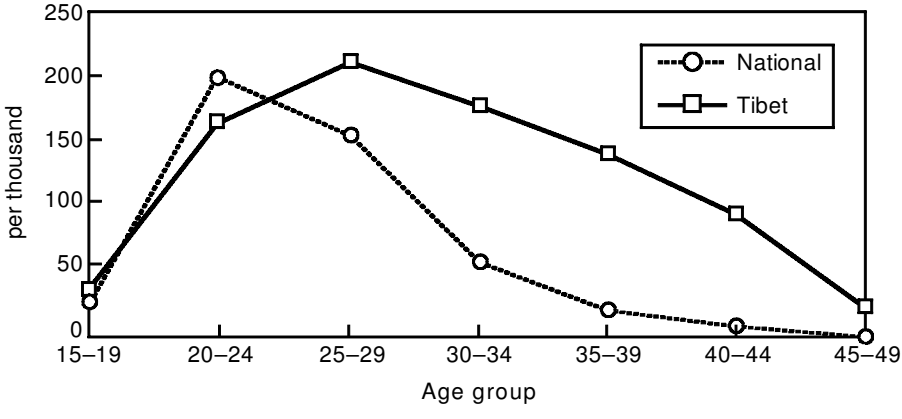

Figure 1. National and Tibetan rates of age-specific fertility.

according to local regulations. At present, however, early marriage under the legal age is still popular in some places. As shown in Table 3, women who married under-age accounted for 4.3% of all marriages in 1989 among the Han majority. In comparison, as many as 11.3% of Tibetan brides who married in 1989 were under 19.

Table 3 shows that Tibetans had a higher marital fertility than the Han majority, with a birth rate of 32.6 per thousand and a total fertility rate (TFR) of 4.1. In terms of age-specific fertility, as the example given in Figure 1, the national rates and the Tibetan rates show different patterns. The national rates can be assumed to be roughly that of the predominant Han. National fertility clustered at a peak in the 20–4 age cohort immediately after entering the reproductive age. Then it dropped sharply in older cohorts, implying that Han women tended to give birth early, and also ended their reproductive cycle quickly. In comparison, Tibetan fertility reached a peak in cohort 25–9, and fell only gradually in older cohorts. In the end, Tibetan women were likely to have more children than their Han counterparts. At the 1989 fertility level, taking TFR as an example, a Han woman might end up with 2.3 children over her lifetime, whereas a Tibetan might have 4.1 children.

Table 4. Distribution of Tibetan deaths directly resulting from China's invasion, by causes of death and regions (1949–79)[a]

Cause of death	Regions			Total
	U-Tsang	Kham	Amdo	
Prison and labour camp	93,477	64,977	14,784	174,138
Execution	28,267	32,266	96,225	156,758
Battle	143,255	240,410	49,042	432,607
Starvation	131,253	89,916	121,982	413,151
Torture	27,951	48,840	15,940	92,931
Suicide	3,375	3,952	1,675	9,002
All	427,478	480,261	299,648	1,278,387

[a]Office of Tibet, *Human Rights*.

The higher TFR of Tibetan women can also be explained by the percentage of births by parity. Of all Han births registered in 1989, 81.8% belonged to the first or the second parity category. By contrast, over one-fifth of Tibetan births (21.0%) fell into the high parity category (the fifth and over). This suggests strongly, from another perspective, that the allegation of 'coercive birth control' lacks solid demographic foundation.

The 'Genocide' Myth Re-examined

As mentioned above, the 9.9% decline in total Tibetan population from 1953 to 1964 deserves special concern. Conflicting explanations have been proposed so far. On the one hand, it has been frequently cited by the TGIE sources as evidence for the 'genocide' accusation that Tibetans were killed *en masse* by the Chinese government during that period. On the other hand, some Chinese scholars such as Sun and Li reckoned that much of the inconsistency is attributable to the overestimate of population of Tibet in 1953. (However, they also admit that the 1959–61 famine might have taken a heavy toll of Tibetan lives.) The 1953 figure was based on a report of the then Tibetan government for Tibet proper (or U-Tsang) and government estimates for other Tibetan inhabited areas. According to the Tibetan government's report, the total population in Tibet proper stood at a round figure of one million, which seems unlikely. Obviously, it is difficult at this stage to judge which explanation is more plausible. The present author will come back to discuss the inconsistency between the two census figures later.

As for the 'genocide' allegation, TGIE followers frequently state that over 1.2 million Tibetans died as a 'direct result of China's invasion'. In 1984, the TGIE even issued an extremely detailed table of total Tibetan deaths by cause of death and region, as shown in Table 4. The figures were reportedly compiled after years of analysis of documents, refugee statements and interviews, and by official delegations sent to Tibet by the TGIE from 1979 to 1983. In modern demography, it is of course possible to obtain relatively reliable mortality statistics of a population by indirect estimation methods, primarily based on survey data. However, the survey itself must be of high quality to be representative, and the estimates are usually given in the form of rates or ratios. Rarely are estimated mortality statistics presented in absolute figures, let alone with single-digit accuracy.

The methodology the TGIE used also appears defective. If they have problems in working out an exact figure of Tibet's total population alive at present, how can they come

to these exact death figures by analysing documents? When they have a problem in clearly defining the boundary of the greater Tibet as well as its provinces, how can they break down the figures by regions? Knowledge of statistics tells us that random sampling is necessary for acquiring reliable data in any surveys. Those conducted entirely among political refugees could produce anything but objective and unbiased results. From 1979 to 1983, the TGIE did send three small fact-finding delegations to China. By bus and air, the delegates, mainly TGIE officials and the Dalai Lama's family members, visited a number of cities and major religious sites in the TAR, Qinghai and Sichuan. The delegates reportedly witnessed massive poverty among the Tibetan population and irretrievable destruction of Tibetan culture.[19] However, these people are not scholars, and their activities were under constant surveillance of Chinese officials. Private interviews with locals were almost impossible, let alone inquiries about death records. Here, another Chinese source is cited by Samdup as proof of the table's validity that 'some 87,000 Tibetans were killed in Central Tibet, in the Lhasa Uprising of March 1959'. Again, the present author checked the original source, a speech by the late Premier Zhou Enlai in 1957 on China's nationality policies,[20] first published in *Beijing Review* in 1980. The article is not long, 14 pages with photos and graphs. The problem is that one can hardly find in it any clues implying that 87,000 Tibetans were killed. On the contrary, Zhou was talking about the importance of fighting against Han chauvinism! If these TGIE sources are not reluctant to fabricate Chinese sources in open publications, how can they expect people to believe in their citations of so-called Chinese secret internal documents and speeches that are never available in originals to independent researchers?[21]

Table 4 indicates that most deaths were caused by battle (33.8%) and starvation (32.3%). A close look is helpful to see where, when and on whom the disaster fell.

Deaths Caused by Battle

According to both Feigon and Smith, no major battles were fought in the early 1950s when the PLA marched into Tibet after they seized Qinghai from Muslim warlords and liberated Xikang (eastern Kham) peacefully. Even in the decisive Qamdo battle, the main Tibetan force surrendered without even a skirmish, leaving only 150 Tibetans killed or wounded. Khampas (native Tibetans in Kham) were even blamed for collaborating with the PLA.[22] Armed revolts broke out only in 1956 in eastern Kham (Sichuan) and Amdo (Qinghai) when the government tried to impose socialist transformation policies there similar to those of other provinces. Rebellion in these regions was later suppressed mercilessly by the PLA. Most massacres reportedly took place in Qinghai in 1958.[23] Curiously, Table 4 shows much fewer deaths in Qinghai (Amdo). The Tibetan resistance reached a climax in Tibet proper in 1959. However, the uprising was confined mainly to Lhasa, and the PLA crackdown was completed in just a couple of days. Organised resistance continued in other places for only

19 Avedon, John F., *Tibet Today* (Wisdom, London, 1988).

20 Zhou, Enlai, 'Some Questions on Policy towards Nationalities', *Beijing Review*, vol. 34, no. 9 (1980), pp. 14–22; vol. 34, no. 10 (1980), pp. 18–23.

21 See also the footnote in Warren Smith, *Tibetan Nation: A History of Tibetan Nationalism and Sino-Tibetan Relations* (Westview Press, Boulder, 1996), p. 451, which claims that the figures reportedly come from a secret 1960 PLA document captured by the Tibetan Resistance in 1966, and were published first by a Tibetan Buddhist organisation in India in 1990. It is said that 87,000 enemies were eliminated in the original document, and Smith believes that 'eliminated' does not necessarily mean killed. However, it is hard to understand why it took 6 years for the PLA document to be captured, and 30 years for it to be published. It is also highly unlikely that a resistance force could ever exist in Tibet as late as in 1966.

22 Lee Feigon, *Demystifying Tibet* (Ivan R. Dee, Chicago, 1996), p. 144.

23 Tsering Dawa, 'Colonisation in Tibet and its Threat to Tibetans' Survival', *China Spring*, no. 173 (February 1998), pp. 63–88.

another month. The TGIE estimates of the number killed in the revolt vary from 5,000 to 10,000 in a 1976 statement,[24] substantially fewer than the later estimate of 143,000 for U-Tsang (Tibet proper).

Deaths Caused by Starvation

It is well documented that China suffered from a nationwide famine during 1959–61 owing to crop failure and the Government's mismanagement of the economy. Some Tibetan inhabited regions, such as the farming areas in Qinghai (Amdo) and Sichuan (eastern Kham), were also affected. Many attempts have been made so far to estimate the actual number of excess deaths[25] in China as a whole, based on a variety of approaches and assumptions. Estimated figures range from 16.5 million[26] to 29.5 million.[27] From data from 18 provinces, Peng Xizhe, a leading Chinese demographer, came to an estimate of 23 million.[28] That means, excess deaths accounted for about 1.2% of China's total population of 662 million each year during that period. If, according to Table 4, 413,000 Tibetans died of starvation during the period, or about 138,000 each year, in a total population of about 3 million in 1960 (2.97 million by 1.0% annual increase or 3.08 million by 2.0% since 1953), the excess deaths should account for about 4.6% of the total population each year. This is nearly four times as high as the national average, quite unlikely because of two unique factors in Tibetan inhabited regions. First, over half of the Tibetan population is made up of self-sufficient nomads to this day, and their livelihood seldom depends on external food supply. Second, in the farming areas of Tibet proper, the land of former aristocrat landowners had been distributed to individual farmers just after the 1959 Land Reform. Policies that became routine in other provinces, such as the commune system, the central grain purchase and supply system, and the agricultural tax system, were not introduced to the TAR until 1965. Farmers, working on their own land for the first time, were enthusiastic to raise output, and there were no reports of any crop failures. However, according to Smith, starvation conditions prevailed, not because harvests were poor, but because 'virtually all' agricultural and pastoral production was confiscated and trucked to other provinces to help alleviate famine.[29] These claims come entirely from refugees' personal interviews, and cannot be verified by any other sources.[30] In fact, the government had just exempted Tibetan farmers from all agricultural taxes, so it is hardly likely that they would wish to institute a policy of confiscating 'virtually all' agricultural products from them. Even if there was such a policy, from where could the government mobilise enough manpower to enforce it in such a vast and inaccessible area? What was the point of loading barley on small trucks and sending them along the zigzag road 3,000 metres above sea level to feed the numerous and rice-eating Sichuanese a thousand miles away, especially since the Soviet Union had cut off oil supplies, so that fuel was seriously short in China at the time?

Regardless of the absolute death figures, it is an educated guess that the majority of the Tibetans who died in battle were males in their prime ages from Sichuan (eastern Kham)

---

24 Smith, *Tibetan Nation*, p. 451.

25 Deaths exceeding those that would have occurred had previous conditions prevailed.

26 Ansley J. Coale, 'Population Trends, Population Policy, and Population Studies in China', *Population and Development Review*, vol. 7, no. 1 (1981), pp. 503–31.

27 Basil Ashton, 'Famine in China, 1958–1961', *Population and Development Review*, vol. 10, no. 4 (1984).

28 Peng Xizhe, 'Demographic Consequences of the Great Leap Forward in China's Provinces', *Population and Development Review*, vol. 13, no. 4 (1987), pp. 639–70.

29 Smith, *Tibetan Nation*, p. 487.

30 According to Goldstein and Beall ('China's Birth Control Policy', p. 301), the accounts offered by refugees are likely to be exaggerations or fabrications told to foreigners to garner sympathy and support for the 'Tibetan cause'.

Table 5. Estimates of total Tibetan population, with annual growth rate at 1.5%, 1953–64

Year	Total Tibetan population with 1953 figure as benchmark ('000)	Total Tibetan population with 1964 figure as benchmark ('000)	Difference between estimates ('000)
1953	2,775	2,118	657
1954	2,817	2,150	666
1955	2,859	2,183	676
1956	2,902	2,216	686
1957	2,945	2,250	695
1958	2,989	2,284	705
1959	3,034	2,319	715
1960	3,080	2,354	726
1961	3,126	2,390	736
1962	3,173	2,427	746
1963	3,221	2,463	757
1964	3,269	2,501	768

and Qinghai (Amdo). Those who were executed, or died in prison or of torture were predominantly male as well. Deaths caused by starvation were not considered age–sex specific, but the very young and very old are more likely to be affected. Moreover, the majority of the deaths occurred in a short period from 1957 (when military crackdowns were first reported) to 1961 (when the country recovered from the famine).

Estimating the Missing Tibetans: Two Exercises

We come now to the central question: how many Tibetans died as a direct result of Chinese 'invasion'? It might be helpful in the section to estimate the missing Tibetans from the census data with two simple exercises.

The first possible exercise involves an assumed growth rate. As mentioned in previous sections, the total Tibetan population in China declined by 9.9% from 2.8 million in 1953 to 2.5 million in 1964. Also as mentioned, both figures are estimates. Regardless of their reliability, both figures can be taken here as benchmarks for the calculation. In between, it is necessary to find a reasonable growth rate, assuming that the 'genocide' never took place.

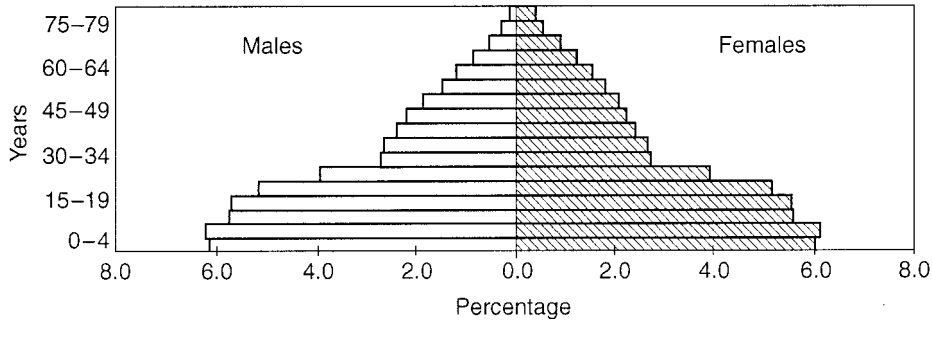

Figure 2. Population Pyramid, Tibetan, 1990.
Source: Population Statistics Department, SBS, 1994.

It is known from previous discussions that, like all populations in the pre-transitional stage, the Tibetan grew very slowly, with high fertility usually offset by similarly high mortality. This situation remained little changed until the late 1950s. It is highly unlikely that the annual rate of growth could ever exceed the 1.0% mark. Since the early 1960s, as implied in Figure 2, the Tibetan population has experienced an unprecedented and continuous period of high growth, with an annual rate at about 2.6%. Taking 1.5% as a synthetic average annual growth rate for the period 1953–64, the present author comes to the results presented in Table 5. As can be seen, the total Tibetan population would have been 3.3 million, were the 1953 figure taken as benchmark. It results in a total of 768,000 Tibetans missing from the 1964 census figure. On the other hand, with the 1964 figure as benchmark, total Tibetan population would have been 2.1 million in 1953. It implies that the 1953 figure might have been inflated by a total of 657,000. Since both 1953 figure and 1964 figure are themselves unreliable, it is hard to make any reasonable interpretation of the estimates in Table 5. Moreover, the assumption of a 1.5% growth rate during the period in question is indeed arbitrary and, not the least, bold. The present author believes, therefore, such estimates should not be given excessive attention as solid demographic evidence in support of whatever political arguments. Otherwise, it is no different from meaningless play with figures.

The second possible exercise makes use of the standardisation of age–sex structures. As known in demographic studies, the age–sex structure of a population, normally illustrated in a population pyramid, provides important information about its history. If a considerable number of people are missing (owing to death or migration) from certain age–sex cohorts during a short period in the past, visible shrinkage can easily be detected from the pyramid. No matter how arguable is the reliability of the death figures compiled by the TGIE, they can still be used as benchmarks to test whether the deaths have left any physical effect on the Tibetan population pyramid of 1990. A brief glimpse of the pyramid given in Figure 2 tells us that the age–sex distribution of the Tibetan population aged 30 and over (those born before 1960) is quite smooth, without detectable shrinkage in any particular age–sex cohorts. This approximately standard pyramid is typical for a pre-transitional population. The pre-1960 distribution pattern can be interpreted in three probable ways: either there were no massive deaths or migration among a specific cohort, or the deaths occurred only in older age groups who would have died out anyhow during the period 1960–90, or the deaths spread evenly across all age and sex cohorts. From previous discussions, the present author believes that most deaths occurred in a short period from 1957 to 1961. He also assumes that the young males constitute a great majority of all deaths. The effect of migration will be discussed later. Apparently, the first two interpretations of the pyramid fit these assumptions poorly. The third one sounds quite plausible according to the starvation theory, in which people of all cohorts are likely to be affected. However, a careful look at the pyramid reveals the existence of an imbalance in sex distribution in women's favour, particularly in certain advanced age groups.[31] It might hint that, according to the previous assumption, an unidentified number of Tibetan adult males of the pre-1960 period are missing from the 1990 census. The similar pattern of lower sex ratios in older age groups can also be detected in the 1982 census data of Tibetans in the TAR (Appendix 1).

By adjusting the sex ratio of the Tibetans aged 30 and over in 1990 (i.e. those born before 1960) to the national average, the present author has tried to arrive at a synthetic number of Tibetan adult males who would be alive in 1990. The difference between the

31 A TGIE source also suggests that the high sex ratio in Eastern and North-eastern Tibet might reflect the massive extent of the fighting and casualties in these areas. Jamyang Norbu, 'The Tibetan Resistance Movement and the Role of the C.I.A.', in Robert Barnett (ed.), *Resistance and Reform in Tibet* (Hurst, London, 1994), p. 189.

synthetic and the real figures is considered the number of missing Tibetans, 127,000 in Table 6. A bulge (56.4%) is observed in cohorts 50–64, or cohorts 20–34 in 1960, quite agreeing with the present author's assumption that the missing Tibetans were more likely to be males in their prime years. By adding another 20% as missing females to males in each cohort, the present author comes to a total of 152,000 Tibetans missing from the 1990 census.

As in the first exercise, the underlying assumptions play a decisive role. The assumptions used for the above calculation are far from rigorous or scientific, but they lead not to minimising but overestimating the missing Tibetans by at least three factors. First, the sex ratio of the Tibetans is not necessarily identical to the national average. Traditionally, the sex ratio among Tibetans was much lower than the rest of China.[32] As we can see from Table 6, the 1990 sex ratio of those under 30 (born after 1960, and, hence, less likely to be affected by battles and the famine) was consistently lower and looked more natural than the national average in every age cohort. It is doubtful that the 1990 pattern was substantially different from that 30 years earlier. Anyhow, son preference is not prominent in the Tibetan culture. Applying high national ratios to standardise the age–sex structure of the Tibetans might inflate the number of the males. Second, there is also an apparent difference in mortality patterns between the Tibetan of the 1960s and the national average of the 1990s. Over the last three decades, the life expectancy of the Tibetans has increased by one-third from below 40 to nearly 60. Meanwhile, the national average already reached 69 in 1990. Transplanting the national pattern directly to the Tibetans might generate more Tibetans still alive in 1990 than the reality. Third, the assumption that women make up 20% of the missing figures is relatively arbitrary. The current method is used simply because necessary and reliable Tibetan statistics of previous periods are not available.

Still there are two additional points that should be raised about the missing Tibetans reached above. First, the missing figure does not necessarily mean the death figure. Migration is another cause of people missing from the census data. It is well documented that, in the aftermath of the 1959 crackdown, tens of thousands of Tibetans followed the Dalai Lama into exile. Migration, or more precisely emigration here, is a highly selective process. Regardless of their social and economic status, the majority of refugees were undoubtedly young males. The massive exodus of Tibetans certainly is an important contributing factor to the missing figures of 1990. Chinese demographers estimate that as many as 90,000 Tibetans fled into exile at that time.[33] Then, there seem to be only around 60,000 missing Tibetans left in the above quite bold estimate.

Second, it is difficult, through comparison between age–sex cohorts, to detect the effect of factors that may influence all cohorts relatively evenly and simultaneously, such as famine and epidemic diseases. The missing figures above give us no information about the deaths caused by starvation during the period 1959–61 among the Tibetan. Apparently, Tibetans were not entirely immune from the nationwide famine. The question is to what extent? As discussed above, refugee reports of massive deaths are largely one-sided stories that cannot be independently verified. It is doubtful whether the excess death rate was almost four times as high as the national average. Maybe a rough idea can be obtained from another angle. It is well understood in history that, during periods of natural disaster and social chaos, the fertility level of a population will fall drastically. For example, China's

32 Mackerras, *China's Minorities*, p. 133.
33 Sun and Li, 'Zhongguo Zangzu renkou de yanbian he xianzhuang', p. 36.

Table 6. Calculating the Tibetans missing from the 1990 Census[a]

Age group	Total Tibetan population 1990 ('000)		Sex-ratio 1990		Synthetic no. of Tibetan males born before 1960 ('000)	Difference between synthetic and real no. of Tibetan males ('000)	Total no. of missing Tibetans[b] ('000)
	male	female	Tibetan	National			
0–4	282	275	102.55	110.24	—	—	—
5–9	286	280	102.14	108.23	—	—	—
10–14	266	258	103.10	106.81	—	—	—
15–19	263	255	103.14	105.51	—	—	—
20–24	239	238	100.42	104.63	—	—	—
25–29	181	178	101.69	105.32	—	—	—
30–34	125	124	100.81	108.46	134	9	11
35–39	123	121	101.65	106.31	129	6	7
40–44	111	111	100.00	109.48	122	11	13
45–49	101	103	98.06	111.12	114	13	16
50–54	86	94	91.49	111.93	105	19	23
55–59	69	81	85.19	109.96	89	20	24
60–64	55	69	79.71	105.86	73	18	22
65–69	40	56	71.43	96.13	54	14	17
70–74	25	40	62.50	85.74	34	9	11
75–79	13	25	52.00	74.80	19	6	7
80+	7	16	43.75	54.31	9	2	2
Total	2,272	2,324				127	152

[a]Population Statistics Department, SBS, *Zhongguo renkou tongji nianjian, 1995* (*Statistical Yearbook of China's Population, 1995*) (Chinese Statistical Press, Beijing, 1995), pp. 108–14.
[b]Plus 20% female.
– Not applicable.

birth rate dropped by 38.4% from 29.2 per thousand in 1958 to 18.0 per thousand in 1961. The 1990 census data show that the number of Han Chinese born in 1961 (10.6 million) was substantially smaller than of those born in the pre-famine year of 1958 (17.8 million), or a decrease of 40%.[34] Although the Tibetan birth rate during the same period is unavailable, the census data prove that the decrease in Tibetan births, down by 11.5% from 51,373 to 45,479, is about 25% of that of the Hans. While the sudden fertility decline among the Hans can be attributed solely to famine, that among Tibetans was primarily a consequence of the prevailing social upheaval caused by rebellions and their suppression. The famine played a lesser role in causing Tibetan deaths. Taking the national excess death rate (1.2%) as a parameter, the Tibetan rate is assumed to be at 0.3% (25% of the national rate). Allowing that the total Tibetan population stood at 3 million at that time, it comes to an estimate of about 9,000 excess deaths per year, or less than 30,000 during the entire famine period.

Targeting different periods with different methods, the two above exercises result in quite different estimates, which are not comparable with each other. Yet they provide a different angle to re-examine the 'genocide' myth. And they both lead to the clear conclusion that the death figures provided by the TGIE are exaggerations not sustained by the evidence.

Family Planning Programmes in the TAR and Other Ethnic Tibetan Regions

China's birth control policy is another frequent target of criticism from the TGIE sources and the Western media.[35] For example, the TGIE stated in an information bulletin that 'the ferocity with which Tibetan women and even the young girls are subjected to forced sterilisation and compulsory abortions leaves us with no doubt as to the motives of the Chinese government: to slowly annihilate the Tibetan race'.[36] A special report on Tibetan women stated that 'the {one-child}policy implemented in China is applied in Tibet as well. Young women with one or no children are routinely sterilised. Vasectomies are forced on Tibetan men. No women under 22 years of age are allowed to have children'.[37] China's birth control policy has long been a controversial topic, both at home and abroad. That coercive measures have been employed in policy implementation is a fact widely reported.[38] Therefore, governments have tried in recent years to minimise the use of coercion by changing workstyle and providing better service in family planning programmes.

In order to achieve economically, socially and ecologically balanced and sustainable development, every country has the right to formulate its own population policy compatible with its domestic conditions. China is now experiencing a typical phase of population expansion. Over the last four decades, the total population doubled from 587.9 million in 1953 to 1,219.3 million in 1995. Since the founding of the People's Republic in 1949, the government has adopted a series of policies to improve people's living standard. However, it took almost 20 years for the government to come to the conclusion that rapid population growth has an adverse effect on the country's socio-economic development, and drastic

34 Population Statistics Department, SBS, *Zhongguo renkou tongji nianjian, 1995* (*Statistical Yearbook of China's Population, 1995*) (Chinese Statistics Press, Beijing, 1995), pp. 100–85.

35 Samdup; Asia Watch Committee, *Human Rights in Tibet* (Asia Watch Committee, Washington, 1988); Blake Kerr, 'Refugee Accounts of Human Rights Violations in Tibet', *Tibetan Review*, vol. 24, no. 8 (1989), p. 1a.

36 Feigon, *Demystifying Tibet*, p. 209, citing TGIE, 'Present Conditions in Tibet', Dharamsala, 1990.

37 The Tibetan Government in Exile (TGIE), *National Report on Tibetan Women*, http://coombs.anu.edu.au/WWWVLPages/TibPages/Current/TibetWomen-Report.html (1995).

38 John Aird, *Foreign Assistance to Coercive Family Planning in China* (Unpublished personal report, tabled in the Australian Senate by Senator B. Harradine, May 1992).

birth control measures are needed to apply an early brake on the growth momentum that may well last for another century. Since the first efforts in the mid-1960s, China's birth control policy has become increasingly rigid as the core of all population policies and family planning programme has been increasingly intensified. As the country embarked on a renewed drive for modernisation in the early 1980s, the government adopted an even more ambitious policy, the one-child policy. Although the degree to which the policy enforcement is coercive is arguable, remarkable progress has been achieved in recent years in curtailing rapid population growth. For example, China's recorded TFR dropped sharply from 5.8 in 1970 to 2.3 in 1989.

China is a vast country with considerable regional disparities in social and economic development. As Greenhalgh observes, policies drawn up at the national level are not implemented directly. Rather, each locality is expected to devise its own regulations that accord with central policy but also conform to local conditions. This is also the case with the population policy.[39] Together with the environment protection policy, the birth control policy is given top priority on government agenda in China. Unlike the former, however, the one-child policy has never been translated into a law, and remains largely a national guideline to date. It is the local governments, primarily the provincial governments, that are responsible for working out concrete birth control regulations, including target population, conditions for having additional children, incentives and penalties. Therefore, regulations can differ substantially from time to time, from place to place, and from one segment of the population to another.

Although all Chinese citizens are subject to birth control regulations, it does not follow that every couple must meet the one-child requirement under all circumstances. According to Greenhalgh's analysis on provincial birth planning regulations, there are two basic principles for allowing couples to have an additional child: to preserve a minimum patrilineal family; and to reduce gross inequalities by giving special consideration to underprivileged areas and groups. The former principle tries to ensure that each couple can end up with at least one son. The latter principle applies mainly to people who work in hazardous occupations, who live in poor and remote regions, and who belong to minority nationalities. The last two categories are especially relevant to discussions in this paper.

Couples of ethnic background commonly can have one or two more children than their Han Chinese counterparts, depending on their ethnicity, occupation and the place of residence. In high density provinces, minority couples are allowed to have two children. In provinces where population density is low or the minority proportion in local population is high, minority couples can have up to three children. In Tibet, having up to four children per family is allowed.[40] In terms of occupation, public servants, workers in state-owned factories and military personnel are generally required to stick to the one-child limit.

Even in minority regions, programmes target Han residents much earlier than non-Hans. There are also marked differences in the number of children allowed. In Tibet, family planning programmes started quite late, and are confined at the moment largely to government employees in urban areas. So far, as in other Chinese provinces, there appears to be no intention of replacing the local regulations with formal legislation. Starting from 1980, Han public servants are allowed only one child, while, since 1985, Tibetan employees have been asked to stop at two. As Goldstein and Beall observe,[41] Tibetan city dwellers not

39 Susan Greenhalgh, 'Shifts in China's Population Policy, 1984–86: Views from the Central, Provincial, and Local Levels', *Population and Development Review*, vol. 12, no. 3 (1986), pp. 491–515.

40 Xiao Zhenyu, 'Jihua shengyu zhengce' ('Family Planning Policies'), in Xu Dixin (ed.), *Dangdai Zhongguo de renkou* (*Contemporary China Series: Population*) (Chinese Social Science Press, Beijing, 1988), p. 433.

41 Goldstein and Beall, 'China's Birth Control Policy', p. 294.

employed in formal sectors have been subject to the two-child limit only since 1990. For Tibetan farmers, the three-to-four-child limit is simply an indicative plan target developed by the local family planning department. So far, no serious efforts have been made to implement the above plan targets in rural areas of Tibet. In pastoral areas, usually at an altitude as high as 4,000 metres above sea level, family planning programmes are neither necessary nor possible. Therefore, judging by the plan targets, birth control policy is quite flexible in Tibet. It is not true, as suggested by the Asia Watch Committee and Kerr,[42] that Tibetan common folk are only permitted to have two children and Tibetan officials only one, and the two-child limit is applied universally in Tibet.

The plan target on paper is one thing, and to translate it into reality is another thing. After more than two decades of the enthusiastic, and sometimes coercive, birth control campaign, the result is not as satisfactory as expected. In China, of all women aged 15–64 with surviving children, according to the 1990 census, 26.8% had one child, 27.2% had two children, and 46.0% had three or more children.[43] In Tibet, as mentioned above, family planning programmes target mainly government employees. There is no serious attempt to enforce birth control among Tibetan farmers and herdsmen who live in such vast areas with such low population density. According to 1993 figures, of all urban Han women of childbearing age, 92.4% were using some kind of contraceptives. Among the Tibetans, the prevalence rate was 50.6% in cities and 18.9% in rural areas. There are no grounds for the assertion that 'young women with one or no children are routinely sterilised'. On the one hand, there is no one-child limit for any Tibetan couples. On the other hand, the commonest contraceptive used in China by women with one child is the IUD. Sterilisation is only 'routinely' suggested to, or forced to a certain extent on, women who already have two or more children. Over the last two decades, nearly 100 million Chinese women have undergone sterilisation as a permanent contraceptive method (40% out of 230 million contraceptive users). It is true that for most of them it is not a voluntary choice. No matter how coercive the programme might be, however, one can hardly find even a single case in which a childless woman is sterilised for the purpose of birth control. From their own on-the-spot surveys in Tibet from 1986 to 1988, Goldstein and Beall conclude that 'the Tibet Autonomous Region is actually experiencing high population growth rather than suffering a policy of coercive and restrictive birth control that is causing population decline and threatening the continued existence of Tibetans'[44]. The present author has come to a similar conclusion from census data that the Tibetan population is growing rather than declining. As observed by Wang during his 10 visits to the TAR, rural Tibetan families have four to five children on average. It is not unusual to find quite large families with as many as seven to eight children.[45]

Most claims of 'coercive birth control' in Tibet come from Tibetan refugees in India.[46] It is common knowledge that migration is a selective process. Political refugees by all accounts are the most politicised segment of migrants. Goldstein argues that the accounts offered by refugees are likely to be exaggerations or fabrications to garner sympathy and support. Other factors might also affect scholars like Kerr, such as misinformed opinions and flaws in research methodology. Certainly, individual cases of abuse cannot be dismissed completely, particularly in the neighbouring

42 Kerr, 'Refugee Accounts of Human Rights Violations in Tibet', p. 43.
43 Population Census Office, SBS, *Zhongguo 1990 nian renkou pucha 10% chouyang ziliao*, pp. 430–60.
44 Goldstein and Beall, 'China's Birth Control Policy', p. 300.
45 Wang, *Tianzang*, p. 483.
46 The Tibetan Government in Exile (TGIE), *National Report on Tibetan Women*, p. 10

provinces of Qinghai and Sichuan where not only are local regulations different, but policy enforcement is less lenient. That is why TGIE sources claim that birth control policy is enforced more repressively on the population of Kham (Sichuan) and Amdo (Qinghai). Understandably, local officials of Sichuan simply cannot afford to take a *laissez faire* attitude toward birth control in a province where (until Chongqing Municipality was taken from Sichuan in 1997) the population stood at over 107 million (according to the 1990 census). In the TAR, as a matter of fact, lack of qualified personnel and financial resources hamper the programme efforts. For example, in 1995 there were only 43 full-time family planning officials and workers in Tibet, with a total annual budget of RMB¥300,000, including administrative overheads.[47] That means, there is only 1.1 programme worker for every 10,000 registered city dwellers, and each city woman can only receive service worth less than ¥5 per year. The majority living in rural and pastoral areas are not even taken into account. As a 1995 survey finds, demands for family planning service among Tibetan women seem to be rising, particularly in cities and in prosperous farming areas surrounding Lhasa.[48] It is naive to suggest that modern Tibetan women, against the world trend of fertility transition, still want as many children as possible. Far from there being coercion, local family planning workers are struggling to meet the growing demand with the limited resources available. Moreover, birth control policies are not targeted against Tibetans.

Transfer of Non-Tibetans in the TAR and Other Ethnic Tibetan Regions

The Chinese government is frequently criticised for the transfer and settlement of non-Tibetans into traditionally Tibetan inhabited areas, in an attempt to 'finally suppress the Tibetan issue by changing the very character and the identity of Tibet and its people'. As a result, Tibetans are now outnumbered by the 'Chinese' in their own land.[49]

Compared with those debatable allegations of 'genocide' and 'forced birth control', the present author believes that the suggestion of population transfer of non-Tibetans into the traditionally Tibetan regions, or ethnographic Tibet, is basically true, considering the fact that before 1949 there were only a handful of Han Chinese traders in political Tibet. It is also true that this population transfer has been gaining momentum in recent years. This will certainly affect Tibetan culture. However, the present author sees no deliberate attempt by the Chinese government against the Tibetans or their culture, but instead views the issue of population transfer as part of the modernisation process that has been implemented everywhere in China since the late 1970s. This paper considers the situation as shown in the 1990 census, taking care to distinguish between political and ethnographic Tibet.

Table 7 presents the population distribution by ethnicity of the TAR and other ethnic Tibetan regions in neighbouring provinces. In 1990, of the total population of 2.1 million in the TAR, 95.5% were ethnic Tibetans. Non-Tibetans accounted for just 4.5%. Only Lhasa and Nyingtri had a relatively higher proportion of non-Tibetans, 12.8% and 18.3% respectively. Qamdo, Shannan, Xigaze, Nagqu and Ali Prefectures all remained overwhelmingly Tibetan, with their shares ranging from 97.3% to 98.9%. What these figures show is that in 1990 the great majority of the population in Tibet were Tibetans.

As pointed out previously, the different political and historical experiences of the Tibetans outside the TAR require them not to be aggregated with those in the TAR. The

47 Dai and Feng, 'Dui Xizang renkou', pp. 29–32.

48 China Population Information and Research Centre, 'Xizang renkou fazhan yu jihua shengyu kaocha baogao' ('Report on Tibet Population Development and Family Planning'), *Renkou yanjiu*, vol. 20, no. 1 (1996), pp. 41–8.

49 Samdup, 'Chinese Population Threat to Tibetan Identity'.

Table 7. Population distribution by region and ethnicity, the TAR, Qinghai, and Tibetan Autonomous Prefectures in other provinces, 1990[a]

Region	Ethnicity (%)				Population ('000)
	Tibetan	Han	Others	Total	
A. Tibet Autonomous Region					
All	95.48	3.68	0.84	100.00	2,097
Lhasa	87.21	11.95	0.84	100.00	328
Qamdo	98.29	1.40	0.31	100.00	492
Shannan	97.66	2.04	0.31	100.00	274
Xigaze	98.73	0.90	0.37	100.00	542
Nagqu	98.95	1.01	0.04	100.00	291
Ali	97.63	2.32	0.04	100.00	60
Nyingtri	81.87	10.31	7.98	100.00	110
B. Qinghai Province					
All	20.46	57.91	21.63	100.00	4,457
Xining	2.76	75.07	22.17	100.00	1,087
Haidong	8.60	64.57	26.83	100.00	1,908
Haixi	9.94	75.96	14.10	100.00	312
Haibei	20.16	46.12	33.72	100.00	258
Huangnan	63.74	10.99	25.27	100.00	182
Hainan	53.74	37.67	8.59	100.00	361
Guoluo	88.33	10.00	1.67	100.00	120
Yushu	96.48	3.08	0.44	100.00	227
C. Tibetan Autonomous Prefectures in Neighbouring Provinces					
Sichuan Province					
Aba	48.41	28.60	22.99	100.00	765
Ganze	75.68	19.50	4.82	100.00	831
Yunnan Province					
Deqen	33.10	16.20	50.70	100.00	315
Gansu Province					
Gannan	47.67	45.90	6.40	100.00	581

[a]Sun and Li, 'Zhongguo Zangzu renkou de yanbian he xianzhuang', p. 37; Statistics Bureau of Gansu, *Gansu tongji nianjian* (*The Statistical Yearbook of Gansu*), *1991* (Chinese Statistics Press, Beijing, 1991), pp. 146–7; Statistics Bureau of Sichuan, *Sichuan tongji nianjian 1991* (*The Statistical Yearbook of Sichuan 1991*) (Chinese Statistics Press, Beijing, 1991), p. 71–2; Zhang Tianlu, 'Zhongguo Zangzu renkou yu Xizang renkou gaikuang' 'A Profile of Tibetan Population in China', *Zhongguo renkou nianjian 1995* (*Population Yearbook of China, 1995*) (Chinese Statistics Press, Beijing, 1995), pp. 41–7; Statistics Bureau of Qinghai, *Qinghai tongji nianjian* (*The Statistical Yearbook of Qinghai 1991*) (Chinese Statistics Press, Beijing, 1991), pp. 175–6.

'outnumber' myths, however, were largely based on misuse of 'official' population figures of other ethnic Tibetan regions. For example, Qinghai has always been claimed by the TGIE as the traditional 'Tibetan Province' of Amdo. Of its total population of 4.5 million, Tibetans accounted for just above one-fifth (20.5%), clearly a minority. However, the TGIE failed to remind the public of the fact that Xining, the capital city, and its populous surrounding areas of Haidong Prefecture have never been considered as part of ethnographic Tibet in modern times. The dominant groups there are Han Chinese and Muslim Hui. In the Qing dynasty, Xining and its suburbs were alternatively controlled by Qinghai *ambans* and Gansu governors. This region was cut off from Gansu to merge with Qinghai in 1928 by the Chiang Kai-shek government. Xining was the stronghold of the Muslim Ma clan, which ruled the province until 1949. Therefore, it is improper to include Xining and its suburbs in any calculations of total population in ethnographic Tibet. Otherwise, the result would be distorted, with the inclusion of a total of 3 million non-Tibetans, or 67.2% of Qinghai's total population.

The other two prefectures within ethnographic Tibet in which the Tibetan share of the population is small are Haibei (Tshochang in Tibetan) and Haixi (Tshonup). Haibei is officially known as the Tibetan and Mongolian Autonomous Prefecture, where Tibetans traditionally coexist with Mongols. Han migrants are concentrated mainly in state farms set up since the 1950s. The apparent presence of Han Chinese in Haixi (76.0%) results from the emergence of Golmud as an important transport hub and a centre of the mining industry over the last few decades. In the four other Prefectures of Huangnan (Malho), Hainan (Tsholho), Guoluo (Golog) and Yushu (Jyekundo), local Tibetans have been the majority over a long period, with their proportion ranging from 53.7% to 96.5%. In all six Tibetan prefectures, Tibetans accounted for 49.2%, slightly less than half of the total population.

Tibetan prefectures in other provinces have a longer history of Han influence. In 1990, Tibetan dominance could only be found in Ganze (Kanze). However, Tibetans still accounted for a majority of 51.2% when the population of the four Tibetan prefectures were put together, with Han Chinese accounting for 27.6% and other ethnic groups 21.2%.

The 1990 census has not only produced the most accurate and reliable data on the Tibetan population in China so far, but it can be easily tested, since data tapes are now available to all foreign researchers. However, the official Chinese data are considered misleading by the TGIE sources: 'The Chinese government uses figures which are designed to downplay the presence of Chinese settlers.'[50] On the other hand, they admit that their figures are only estimates, since the TGIE cannot conduct censuses in Tibet themselves. According to TGIE estimates,[51] six million Tibetans in the greater Tibet are outnumbered by 7.5 million Chinese. A total of 6.2 million Chinese civilians had been moved into Tibet (the greater Tibet, of course) in addition to 500,000 troops. In the TAR, there were as many as 1.7 million Chinese in the mid-1980s, including 630,000 in Lhasa area alone, or twice as high as the official Chinese figure (328,000) of 1990 for the city as a whole. The official figure that only 94,500 non-Tibetans living in the TAR was deemed extremely unlikely, because the state sector alone employed 50,000 people.[52] 'Large number of labourers, including peddlers and hawkers have now flowed into Tibet with a total of at least 100,000 in Lhasa alone.'[53] Since the geographical and time references of the above estimates are not defined clearly, it is difficult to make a meaningful judgement on data reliability. What should be stressed is that inconsistency does exist in official population figures. Special

50 Ibid.
51 Ibid.
52 Dawa, 'Colonisation in Tibet', p. 64.
53 Ngapo Ngawang Jigme, in *People's Daily*, 23 March 1989.

caution is required in interpreting official statistics from different sources. The Ministry of Public Security makes annual population estimates based on the household registration records, while the State Bureau of Statistics (SBS) publishes regular estimates based on census and survey results. Obviously, overlaps and differences between estimates from the two systems are unavoidable. Also worth noticing is that military figures are not normally included in regional data. As in most countries, regional statistics only refer to residential population.

The present author is not in any position to verify whether the published data have been artificially manipulated to 'downplay' the presence of non-Tibetans in ethnographic Tibet. However, it is true that the 1990 census data are inadequate to address the population transfer issue for two apparent reasons: the exclusion of newly arrived migrants from the census and the latest development of internal migration in China as a whole. As above, the TAR and other Tibetan regions are discussed separately.

The 1990 census was conducted through household interview. Interviewees were identified primarily according to household registration records. Non-residents, that is those who were not locally registered and had no official residency rights, were also interviewed as long as they had lived in the area longer than one year.[54] A unified questionnaire was used in all provinces except the TAR. Compared with a total of 21 items in the national questionnaire, that used in the TAR consists of only 19 items. Three items relating to migration were omitted: the number of persons in the household registered locally but who had been away for more than one year, the respondent's residence on 1 July 1985 (five years prior to the census date), and reasons for migration if applicable. The reason for this omission was given as poor record management and the small number of cross-regional migration.[55] Tsering Dawa cites these omissions as evidence of the 'downplay' theory. A close look is necessary to see if the omission is indeed relevant to discussions in this paper. The first item is about the number of registered persons absent from the census date. Obviously, it has little to do with population transfer from outside TAR. The second is not about the respondent's migrant status, since locally registered persons would also have to answer the same question. For migrants, what is missing might be information about their origin. It is certainly relevant to the question of where these people came from, either from neighbouring prefectures or from other provinces. The third item is also important because it would provide information about the motives for migration. As can be seen, the official data are only adequate for analysis on the ethnic status of locally registered residents and non-residents who had lived in the TAR for longer than 1 year. Their usefulness is hampered because newly arrived migrants, those who stayed for less than 1 year, were excluded from the census. This might greatly underestimate the real number of non-Tibetan migrants in the TAR. The amendment of the questionnaire has no effect on identifying a person's ethnic or migrant status once he was included in the census. However, lack of detailed information makes further analysis on the migrants' origin and motives difficult.

In China, a drastic rise in population mobility, or a huge 'floating population', has emerged only since the late 1970s, when a series of market-oriented reforms were adopted. Previously, ordinary people, particularly those living in the countryside, were denied the right to move from one place to another by the rigid household registration system. This was once criticised as a severe violation of human rights, along with limits on emigration.

---

54 The census results reveal that a total of 44.8 million people fell in this category in 1990, implying a notably wide gap between registration data and census data. Shen Tirui, 'Zhongguo 1990 renkou pucha de hukou zhengdun gongzuo' ('The Rectification of the Household Registration System in China's 1990 Census'), in Sun Jingxin (ed.), *Dangdai Zhongguo renkou* (*Population in the Contemporary China*) (Census Office of the State Council, Beijing, 1992).

55 Dorje and Xi, 'Lun 1990 nian shijie wuji shang', pp. 81–2.

Over the last decades, however, the rapid structural shift from a planned to a market economy has considerably eroded many of the barriers on rural-urban and cross-regional migration. There are a number of contributing factors:

- rural decollectivisation, which has freed up to 300 million surplus labourers previously restricted to the countryside;
- the rapid expansion of the non-public and informal sectors;
- the increasing regional disparity in economic development and living standards; and
- the current relaxation of migratory controls.

The 'floating population' refers to people staying in places where they do not have a permanent local residency status. Its size increased reportedly from 50 million in 1990 to nearly 100 million in 1995.[56] A 1996 survey conducted by the Chinese Academy of Social Sciences shows that 80–90% of the cross-regional migrants were rural labourers looking for manual jobs in urban areas. The remainder were skilled craftsmen and traders, often self-employed. Most of the migratory flows were within the migrants' own provinces (70%), but the out-of-provincial flows appeared to be gaining popularity in recent years. The economically advanced coastal regions were major recipients of inter-provincial migration.

At present, migrants are not barred from entering the TAR and other Tibetan regions. If only a small fraction of the 'floating population' move into ethnographic Tibet, their presence is easily visible because of the extremely low population density there. Given the harsh natural conditions on the plateau of Tibet and the fact that farming and pastoral land has long been allocated to local Tibetan households, urban areas are the only possible places where migrants can find a job or start a business. The estimate is quite plausible that, in Lhasa areas alone, non-residents might total 100,000.[57] That is why the TGIE usually complains that Lhasa is rapidly becoming a 'Chinese' city. Compared with local residents, Tibetan or non-Tibetan, these migrants have no rights that guarantee access to jobs in the public sectors or subsidised services such as food supply, housing, education and health care, but have to struggle for their own survival. Some run small shops or restaurants, and some sell their skills as craftsmen. The unskilled and poor usually end up doing dirty, dangerous and low-paid jobs on construction sites, which locals are reluctant to take. It is possible that these migrants will stay permanently.

Another contributing factor to the recent influx of non-Tibetans into the TAR is the acceleration of the local economy. In the early 1980s, the government announced an ambitious target for economic growth to quadruple China's per capita GNP in 20 years. With average annual growth rate at 8–9%, this target has already been met a few years ago. In the 1980s, coastal regions topped the government's development agenda. In recent years, however, the government has gradually shifted its attention to inland provinces, including the TAR. On the one hand, the central government pours in huge sums of money, as high as RMB¥8 billion, to improve infrastructure and expand productive capacity. Since 1994, 62 large-scale construction projects have been completed. On the other hand, the TAR government has also set their own ambitious targets, and introduced a series of policies designed to encourage external investment, from overseas as well as from other provinces. As a result, numerous non-Tibetans come as managers, technicians, engineers, businessmen, or construction workers. Unlike the 'floating population', these more sophisticated migrants

56 Chan Kam Wing and Yang Yunyan, 'Internal Migration in Post-Mao China: A Dualistic Approach', in China Population Association (ed.), *Symposium on Demography of China* (China Population Association, Beijing, 1997), pp. 179–97.

57 For more information see Barry Sautman and Shiu-hing Lo, *The Tibet Question and the Hong Kong Experience*, Occasional Papers no. 127, Contemporary Asian Studies, University of Maryland School of Law (1995).

are sent to the TAR on a rotating basis under strict contracts, either by government departments or by management. These people rarely change their residency status, and more often come to the TAR alone, leaving their families at home. The contracts normally run for 2–3 years. When the contracts expire, the concerned people return home to reunite with their families.

TGIE sources cite official Chinese publications that tens of thousands of construction workers have been sent into the TAR.[58] They fail to mention that, bound by their employment obligations, few will remain after their project is completed. It is not attractive to most ordinary Chinese with a secure job at home to work in the TAR. Therefore, both public and private sectors have to provide incentives, such as higher pay or extra fringe benefits, to their employees to work there. TGIE sources sometimes cite the existence of these people as evidence of an explicit government policy to encourage population transfer to ethnographic Tibet.[59] However, they fail to remind readers of the fact that these incentives are part of routine employment packages in the TAR, neither ethnic-sensitive nor origin-sensitive. All local Tibetan employees enjoy exactly the equal pay and same benefits as their non-Tibetan colleagues. For example, Tibetans, whose ancestors lived on the plateau of Tibet for generations, are equally eligible for a 'high-altitude allowance'.

As for the officially registered Han residents in the TAR, their number has actually dropped by nearly half from 122,400 in 1980 to 64,890 in 1993. On the one hand, a large number of officials and technicians who came in the 1950s and 1960s returned home after retirement. On the other hand, more and more Han officials and technicians have been gradually replaced by well-educated and qualified Tibetans according to a new policy since the early 1980s. The proportion of Hans in total government employees fell from 54.4% in 1980 to 29.7% in 1993.[60]

In China, regional disparities exist in population distribution and socio-economic development. Of its total population, 41% live in coastal regions that account for just 14% of China's total territory. By contrast, only 6.3% live in the vast western frontier regions that cover over half the country's land mass. According to 1996 statistics, coastal regions produced 57.9% of China's GDP, while frontier regions contributed only 4.0%. On average, the per capita disposable income of the frontier regions was less than one-third that of coastal regions.[61] Save for ethnic and cultural factors, it is natural for government leaders to adopt measures to reach a possibly balanced development of national economy. And a balanced development cannot be achieved without rational movement of population. All governments in the world, regardless of their political system or level of development, have policies, explicit or implicit, to encourage population flow from developed to underdeveloped regions.

No government-organised resettlement programmes have ever been introduced in the TAR. Although TGIE sources frequently quote what former Chinese leaders, like Mao Zedong, said in the 1950s on possible population transfer to the TAR,[62] the fact is that such ideas have never materialised. Political Tibet was virtually closed to all unauthorised entry of people from outside until the late 1970s. Population transfer after the 1980s, as discussed above, is more or less a by-product of the government's ambitious drive for modernisation, thorough-going market-oriented reforms, and

58 Samdup, 'Chinese Population Threat to Tibetan Identity'.
59 Ibid.
60 Wang, *Tianzang*, p. 348.
61 State Bureau of Statistics, *Zhongguo tongji nianjian 1997* (*The Statistical Yearbook of China 1997*) (China Statistical Publishing House, Beijing, 1997).
62 Samdup, 'Chinese Population Threat to Tibetan Identity'.

the loosening control of the household registration system in rural areas. Understandably, not all such by-products are welcome, such as pollution and environmental destruction. One may accuse the large-scale development projects in the TAR of doing more harm than good for the local economy, society and environment. But to charge the programmes as motivated primarily for massive resettlement of non-Tibetans in the TAR is unwarranted.

Only few migrants settle down permanently in the TAR. On the other hand, at any given time there will be a large number of non-Tibetans residing in the TAR. It follows that the lack of an explicit resettlement programme does not imply that the impact of the government's modernisation policy on population transfer should be underestimated.

Conclusion

Despite the wide publicity given to several major population-related issues concerning Tibet, the international demographic circles have shown surprisingly little interest in these controversies. This paper has aimed to re-examine the myths and facts about Tibetan population in China from a different angle. The main conclusions are:

- the 'genocide' myth, or the suggestion that China has tried to wipe out the Tibetan population, is not supported by indirect estimates on Tibetan mortality;
- the 'forced birth control' allegation lacks solid demographic foundation, the Tibetan population having experienced an unprecedented growth since the early 1960s;
- Tibetans are still overwhelmingly dominant in the TAR but slightly less than half the population in other Tibetan prefectures in neighbouring provinces; but
- the number of non-Tibetans transferring into ethnographic Tibet is on the rise, an increase triggered primarily by structural transformation and the Government's modernisation policy.

The last conclusion is an excellent case study of the prevailing modernisation and integration theory in ethnological studies. The market-oriented reform and open-up policies can hardly be labelled as ill-intended, since they have changed China beyond recognition over the last two decades. Contemporary Chinese are enjoying higher living standards, greater economic freedom and more civil rights than ever before. It could only be interpreted as a historic coincidence if the current policies might run counter to the interest of Tibetan nationalists. Nevertheless, the present author understands the convictions of Tibetan nationalists that a Tibetan homeland should be preserved. In contrast to many such nationalists, he believes that there is still time for a feasible political solution to the Tibet question.

Appendix 1. Sex Ratio of Selected Years, Tibetan and the National Average[a]

	1982			1990		
Age group	Tibetan in the TAR	National	Difference	Tibetan All	National	Difference
0–4	101.9	107.1	− 5.2	102.6	110.2	− 7.7
5–9	102.1	106.2	− 4.1	102.1	108.2	− 6.1
10–14	101.0	106.0	− 5.0	103.1	106.8	− 3.7
15–19	100.0	103.6	− 3.6	103.1	105.5	− 2.4
20–24	100.0	103.8	− 3.8	100.4	104.6	− 4.2
25–29	103.2	106.5	− 3.3	101.7	105.3	− 3.6
30–34	102.6	108.3	− 5.7	100.8	108.5	− 7.6
35–39	99.4	111.3	− 11.9	101.7	106.3	− 4.7
40–44	100.9	114.2	− 13.3	100.0	109.5	− 9.5
45–49	98.6	112.2	− 13.6	98.1	111.1	− 13.1
50–54	92.2	111.6	− 19.4	91.5	111.9	− 20.4
55–59	88.1	106.6	− 18.5	85.2	110.0	− 24.8
60–64	82.4	100.4	− 18.0	79.7	105.9	− 26.2
65–69	74.6	91.7	− 17.1	71.4	96.1	− 24.7
70–74	65.6	81.3	− 15.7	62.5	85.7	− 23.2
75–79	56.0	68.4	− 12.4	52.0	74.8	− 22.8
80	47.9	57.4	− 9.5	43.8	54.3	− 10.6

[a]Calculated from Population Statistics Department, SBS, *Zhongguo renkou tongji nianjian, 1995*, pp. 108–14.