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# 'End the dominance of the Uyghur ethnic group': an analysis of Beijing's population optimization strategy in southern Xinjiang

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## ABSTRACT

Chinese academics and politicians argue that Xinjiang's 'terrorism' problem can only be solved by 'optimizing' its ethnic population structure. High ethnic minority population concentrations are considered a national security threat. 'Optimizing' such concentrations requires 'embedding' substantial Han populations, whose 'positive culture' can mitigate the Uyghur 'human problem'. Scenarios that do not overburden the region's ecological carrying capacity entail drastic reductions in ethnic minority natural population growth, potentially decreasing their populations. Population 'optimization' discourses and related policies provide a basis to assess Beijing's 'intent' to destroy an ethnic minority population in part through birth prevention per the 1948 United Nations Genocide Convention. The 'destruction in part' can be assessed as the difference between projected natural population growth without substantial government interference and reduced growth scenarios in line with population 'optimization' requirements. Based on population projections by Chinese researchers, this difference could range between 2.6 and 4.5 million lives by 2040.

## KEYWORDS


Xinjiang; Uyghurs; ethnic minorities; birth control; population; genocide

## Introduction and methodology

In July 2009, decades-long tensions between the Uyghur minority population in the Xinjiang Uyghur Autonomous Region (XUAR) and the nation's Han majority population erupted into violent clashes (Roberts 2020). Following a series of high-profile violent attacks, Xinjiang embarked on a massive police and surveillance build-up (Zenz and Leibold 2017). In 2017, the government initiated a campaign of mass internment (Zenz 2018, 2019). In 2021, the US government determined that Beijing was committing genocide in the region, predominantly based on evidence of birth prevention measures targeting ethnic minority women (Pompeo 2021; Zenz 2020).

The 1948 United Nations Convention on the Prevention and Punishment of the Crime of Genocide stipulates that the act of '[i]mposing measures intended to prevent births within the group' constitutes an act of genocide if it is 'committed with intent to

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destroy, in whole or in part, a national, ethnical, racial or religious group, as such' (United Nations 1948).

Whether Xinjiang's birth prevention campaign reflects such an intent is disputed. Some experts argue that while '[d]estruction in the form of physical or biological extermination will always fulfil this [intent] criterion', the 'intention to destroy the Uyghur population of XUAR as a group – that is, as a cohesive social and cultural entity' can be established (Macdonald et al. 2021). Others suggest that the Convention requires evidence of 'physical destruction, not cultural or spiritual, destruction' (Lim 2021, 101).

This research pursues neither a legal determination nor a sociological discussion of the concept of genocide. Taking the Genocide Convention as its vantage point, it aims to provide systematic evidence of the state's likely intent to substantially reduce ethnic minority natural population growth. The 'destruction in part' is then assessed as the difference between (1) projected natural population growth without substantial government interference (based on past growth figures) and (2) reduced growth scenarios due to birth prevention, in line with the state's intent to achieve crucial counterterrorism goals by 'optimizing' (*you hua* 优化) the ethnic population structure (Li 2017a, 72). 'Counterterrorism' refers to Beijing's portrayal of Uyghur acts of violent resistance as 'terror', a rendering that disregards complex interethnic relation issues, including long-standing sentiments of discrimination. The analysis focuses on southern Xinjiang, the Uyghur heartland region and main site of violent clashes (Roberts 2020).

Chinese family planning policies were introduced in the 1980s to reduce population growth, but they have also been associated with eugenic purposes of 'upgrading population quality' (*su zhi* 素质) (Hong-Fincher 2018, 180). Kipnis (2007, 393) has pointed out the intimate link between discourses of improving population 'quality' (*su zhi* 素质) and limiting population quantity through family planning. Discourses of 'population quality' have been especially pertinent regarding ethnic minority women, who are assumed to possess a 'lower quality' (*di su zhi* 低素质): Xinjiang's officials have argued that 'worryingly high birth rates' among Uyghur women have a negative effect on 'population quality in the region, posing risks to social stability' (Hong-Fincher 2018, 180).

In the context of Xinjiang's 'people's war on terror' since 2014, official discourses shifted. Rather than just being a population with a 'low quality' (Byler 2020), Uyghurs began to be framed as something akin to a biological threat (Roberts 2020). Xinjiang's officials have argued that the Uyghur population suffers from an 'illness' of the mind that must be 'cured' through re-education, and that rooting out religious 'extremism' is akin to 'eradicating ... tumors' (Zenz 2018, 20–21). Ethnic minorities are divided into 'safe, average, and unsafe' populations (Tobin 2020, 237; Zenz 2020a, section 3.4).

This research taps into a largely unexplored body of work by Xinjiang-based academics and officials who argue that the region's terrorism problem requires optimizing Xinjiang's ethnic population structure – particularly in the south. Overly populous and concentrated ethnic minorities are seen as a breeding ground for religious extremism.

The remainder of the paper is structured as follows. The next section discusses the most recent data on natural population growth in southern Xinjiang. The third section analyses official and academic discourses on ethnic population optimization, which basically calls for increased Han population shares. The fourth section evaluates the state policy of interethnic 'embedding' (*qian ru* 嵌入) (e.g., Li 2019, 110), which represents a concrete measure for mitigating the perceived Uyghur population threat by diluting

'problem' populations and mitigating their 'negative energy' by embedding Han populations; it also examines official concerns about overpopulation in southern Xinjiang given its fragile ecology, which limits the number of Han migrants and thus necessitates further ethnic minority birth reductions. The final section estimates the ethnic minority population loss that could result from this set of policies. These estimates are relevant to the Genocide Convention's reference to 'destruction in part'.

The PRC's goal of 'optimizing the population' appears as a metanarrative through this literature, and informs our understanding of the wider, longer term intentionality of the state regarding its ethnic minority populations. Population optimization discourses when focused on Han often deal with ageing and shrinking workforce sizes; when focused on Xinjiang's ethnic minorities, they are predominantly concerned with counterterrorism and national security (besides also dealing with gender ratios). In this view, the existence of Uyghur population centres with distinct religion and culture is considered a threat.

### **A brief overview of Xinjiang's birth control regime and recent developments**

In early 2016, the Chinese government abolished its decade-long one child policy, permitting all families to have two children (PRC Government 2016). Since then, the state has actively encouraged couples to have more children – what researchers call 'political steering' to optimize population trends (Alpermann and Zhan 2018).

In China's north-western XUAR, high natural population growth rates have long been a subject of concern for the authorities (Zenz 2020b). Mandatory family planning was implemented for Xinjiang's Han starting in 1975 (Sautman 1997, 6). In 1983, the region sought to limit urban ethnic minority families to two children, rural minority families to three children and those in remote areas to four. The enforcement of these measures sparked a demonstration in 1985, and predominantly Muslim ethnic groups were subsequently permitted to have up to four children (Sautman 1997, 7).

Amid criticisms of preferential policies towards ethnic minorities by proponents of the PRC's Second Generation Ethnic Policy, efforts to roll back preferential birth quotas gradually gathered pace (Leibold 2014). In 2014, after Xi Jinping's visit to Xinjiang, the region's party secretary Zhang Chunxian argued that all ethnic groups should have equal birth quotas (Cliff 2016, 204). In 2015, a senior Xinjiang official argued that the region needed to combat 'worryingly high birthrates' (Hong-Fincher 2018, 180). In 2017, when large numbers of ethnic minorities were interned in re-education camps, the region issued an updated family planning policy that permitted Han to have the same number of children as minorities: two children for urban and three for rural families (Zenz 2020b, 10).

Since then, Beijing's family planning policies in Xinjiang rapidly became draconian. Starting in 2018, birth control violations were liable to be punished with extrajudicial internment, with a leaked internal document (the Karakax List) showing that a violation of birth control measures was the most common reason for such internment (Zenz 2020a, 2020b, 10–11). In 2018, the region performed 243 sterilization procedures per 100,000 population, compared with 33 per 100,000 in the rest of the country (Zenz 2020b, fig. 9). By 2019, at least 80% of women of childbearing age in rural southern

Xinjiang were subject to ‘birth control measures with long-term effectiveness’, including the placement of intrauterine devices or sterilization (Zenz 2020b, 12).

Between 2015 and 2018, combined natural population growth rates in the four prefectures of southern Xinjiang (Hotan, Kashgar, Aksu, Kizilsu), where 91.6% of the population in 2018 was ethnic minorities, declined by 72.9% (population-weighted average; China Statistics Press 2016, 2018, 2019, tabs 3-5, 3-6). In 2019, rates continued to decline (Table 1). Prefectures with data for both 2018 and 2019 (Aksu and Kizilsu), and individual counties for prefectures without such data, were weighted by their respective populations. For the prefecture of Bayingol, frequently considered part of southern Xinjiang, Table 1 lists the three counties with an ethnic minority population share of > 50%. In the resulting population-weighted sample, the average natural population growth rate fell from 5.19 per mille (per thousand) in 2018 to 1.66 in 2019.

A second sample consisted of 35 counties with ethnic minority population shares > 50%, and 28 counties with Han majority populations, all with published birth rate figures for 2019.<sup>1</sup> In this sample, the population-weighted average birth rate in ethnic minority counties fell by 50.1% in 2019, while the birth rate in the Han counties declined by only 19.7%. This is consistent with plans for mass sterilization for 2019 published by counties in southern Xinjiang (Zenz 2020b, 16–19).

The 2020 *Xinjiang Statistical Yearbook* ceased to publish all breakdowns of total populations and population growth by region or ethnicity (China Statistics Press 2020a). Similarly, Hotan and Kashgar prefectures published neither birth nor natural population growth rates for 2019, breaking with a decades-long practice. However, data from the counties under their jurisdiction indicate further declines. In Kashgar, Bachu county’s

**Table 1.** Natural population growth rates in per mille (per thousand).

Year	2018	2019	2020 (plan)	2021 (plan)
National (for comparison)	3.81	3.34		
Xinjiang	6.13	3.69		
Southern Xinjiang counties (the weighted sample of counties shown below)	5.19	1.66		
Aksu prefecture	5.67	1.48		
Awat county	4.71	0.59		
Xinhe county	1.29	0.73		−0.50 to −1.00 (est.)
Kizilsu prefecture	6.39	3.57	−3.14	
Kashgar prefecture	2.38	n.a.		
Yingjisha county	5.26	1.37		
Shufu county	1.39	0.20		
Yopurga county	7.12	0.55		
Bachu county	n.a.	−1.00 to −2.50 (est.)		
Hotan prefecture	2.96	n.a.		
Qira (Cele) county	2.32	−0.05		
Yutian county	−0.49	n.a.		
Bayingol prefecture	4.29	3.85		
Qiemo county	7.57	4.11		
Luntai county	1.83	1.10		
Hejing county	2.26	2.58		

Note: est., Estimate.

Sources: Prefecture and county socio-economic development reports (*Guo min jing ji he she hui fa zhan tong ji gong bao* 国民经济和社会发展统计公报).

2019 birth rate stood at 4.15 per mille; given an expected death rate of between 5 and 7 per mille, its 2019 growth would likely have ranged between  $-1.00$  and  $-2.50$  per mille.<sup>2</sup> For 2021, Aksu's Xinhe county planned for a birth rate of  $\leq 6$  per mille, which at the county's current death rate of 6.62 would result in an estimated negative population growth between  $-0.50$  and  $-1.00$  per mille.

In Kizilsu, the prefecture planned a 6.14 per mille reduction in its natural population growth rate for 2020, which would result in a negative 3.14 per mille. In an August 2020 report, Kizilsu noted that in 2019 nobody was born outside of the government's plan, and that 88% of all women of childbearing age had adopted 'long-term effective birth prevention' measures (Kizilsu Prefecture Government 2020).

Southern Xinjiang's growth rates are trending near or below zero. Below, I argue that such declines are consonant with the state's goal of optimizing the ethnic population structure.

### **'End the dominance of the Uyghur ethnic group': the urgency to optimize southern Xinjiang's ethnic population structure**

An otherwise unremarkable report about an August 2017 health and family planning work promotion meeting held by Kizilsu's Health and Family Planning Commission references an unpublished family planning document (Kizilsu Health and Family Planning Commission 2018).<sup>3</sup> Issued in 2017 by Xinjiang's New Population Planning Office (*Zi zhi qu xin tong chou ren kou ban* 自治区新统筹人口办), its title is 'Meeting Minutes on Earnestly and Thoroughly Implementing the Spirit of General Secretary Xi Jinping's Important Instructions, Researching and Advancing the Work of Optimizing the Ethnic Population Structure in Southern Xinjiang'.

According to a 2017 paper (Liu 2017, 8) titled 'Research on Optimizing Southern Xinjiang's Population Resources', the central government in Beijing 'attaches great importance to the problem of Xinjiang's population structure and population security'. Expressions such as 'optimizing the ethnic population structure' (*you hua min zu ren kou jie gou* 优化民族人口结构) or just 'optimizing the population structure' (in reference to ethnic minority regions and populations) are common in the academic literature on Xinjiang's counterterrorism work (Li 2017a, 72). They are frequently linked to birth control measures.

The sentiment behind these terms was bluntly expressed by Liao Zhaoyu, dean of the Institute of Frontier History and Geography at Tarim University, at a 2015 academic event. When discussing 'methods to solve Xinjiang's problems', Liao said that in southern Xinjiang the state must 'change the population structure and layout [and] end the dominance of the Uyghur ethnic group' (International Legal Research Net 2015). In a 2016 academic publication, Liao argued that the 'underlying reason' for Xinjiang's unrest and terrorism is the high concentration of Uyghur populations in southern Xinjiang. Due to a recent exodus of Han, 'the imbalance of the ethnic minority and Han population composition in southern Xinjiang has reached an unbelievably serious degree' (Liao 2016, 47).

Liao's sentiments are echoed by Xu Jianying, a senior research fellow at the Chinese Academy of Social Sciences and high-profile Xinjiang academic whose work and opinions have featured prominently in state media articles. In 2014, Xu argued in an interview with

the *Global Times* that to counter the ‘East Turkistan’ terror threat, the state must ‘change southern Xinjiang’s population structure’ (Xu 2014).

The link between counterterrorism and ethnic population ratios is expressed even more directly by Xu Zhongcheng, vice-dean of Shandong Police College, and Fan Wangdong, vice-director of the same institution. In a 2014 academic publication on counterterrorism in Xinjiang, the authors devote a substantial section to ‘implementing population adjustments’ (Xu and Fan 2014). After comparing the larger and rapidly growing ethnic minority population with the much lower Han population shares, they write:

From the standpoint of long-term counterterrorism strategy, one must adopt intervening measures to effectively adjust the population in a specific area. For example, in areas where ethnic [minorities] reside ... improve the quality of ethnic minority populations. Intensify the recruitment of talent, adopt preferential policies to retain the Han population and talented Han, and increase the proportion of the Han population. (46)

Xinjiang’s most high-profile and authoritative voice on this sensitive subject is probably Liu Yilei, deputy secretary-general of the party committee of Xinjiang’s Production and Construction Corps (XPCC), and dean of Xinjiang University’s Western China Economic Development and Reform Research Institute. At a July 2020 symposium with 300 experts and scholars from across China, Liu noted that despite all progress, ‘the root of Xinjiang’s social stability problems has not yet been resolved’:<sup>4</sup>

the problem in southern Xinjiang is mainly the unbalanced population structure. Population proportion and population security are important foundations for long-term peace and stability. The proportion of the Han population in southern Xinjiang is too low, less than 15%. The problem of demographic imbalance is southern Xinjiang’s core issue (Liu 2020)

In 2018, Liu had argued that ‘Xinjiang’s population structure [and] ethnic structure ... are unreasonable’, and that Xinjiang must ‘afresh analyze [its] population structure [and] ethnic structure ... from a viewpoint of national security’ (Chinese Economists 50 Forum 2018; Liu 2018). Such statements make it seem that low Han populations in southern Xinjiang are somehow unnatural. This contradicts the historical reality that Xinjiang’s total Han population has historically been very low, and was artificially increased through state-sponsored in-migration starting in the 1950s (Zenz 2021, 4).

Liu’s concern relates to the concept of ‘population security’ (*ren kou an quan* 人口安全) that is increasingly common in the literature on Xinjiang’s counterterrorism and stability maintenance work.<sup>5</sup> In a 2019 publication in the *Jiangxi Police Institute Journal*, Liang Feifei, a researcher from Xinjiang’s Aksu, argues that declining Han population shares in Xinjiang’s border counties ‘have brought severe challenges to [Xinjiang’s] population security’ (Liang 2019). A 2018 publication by Wang Qiaoling from the XPCC Party School notes that since the Han constitute ‘only 15 percent’ of southern Xinjiang’s population, ‘optimizing its population resources’ is an ‘important foundation for ensuring Xinjiang’s population security’ (Wang 2018, 79). This implies that Han populations are an asset to national security, while ethnic minority populations are a threat and must be diluted.

One of the most sophisticated accounts of southern Xinjiang’s population ‘problem’ is found in a 2017 research paper by Li Xiaoxia, director of the Institute of Sociology at the Xinjiang Academy of Social Sciences. In January 2021, the Xinjiang Health Commission published her report on Xinjiang’s population development, and her work has been widely featured in Chinese state media (Li 2021).

In her paper, Li argues that:

the population gap between ethnic minorities and the Han continues to widen, which has made the concentration of a single ethnic group in certain regions more obvious. The lack of interaction and exchanges between different ethnic groups and cultures has caused the three factors of ethnicity, religion and land area to become superimposed, thereby strengthening the viewpoint that one ethnic group owns a [particular] land area, weakening national identity and identification with the Chinese Nation-Race,<sup>6</sup> [adversely] impacting peace and long-term stability.

Consequently, controlling the growth rate of the ethnic minority population and adjusting the regional ethnic population structure are considered to be important ways to achieve long-term peace and stability in Xinjiang. (Li 2017b, 68)

Regarding southern Xinjiang's 'population problem', Li further states that:

[T]here is a huge difference in the numbers of Uyghur and Han populations, which can create even greater political risks. Mainly due to the rapid growth and large number of the Uyghur population, southern Xinjiang's monoethnic and monoreligious character became more pronounced. The superimposition of ... land area, ethnicity, religion, and even poverty will strengthen ethnic self-identification and regional identification, diluting identification with the nation and the central government.

[Southern Xinjiang has] a mono[ethnic] concentrated population [and] a dense religious atmosphere, the masses are susceptible to the encroachment of extremist religious thinking [and] reject secular political rule ... (76–77)

Similar to Liu Yilei, Li argues that 'the problem of the ethnic population structure in southern Xinjiang' is 'one of the roots of the Xinjiang problem' (77). She recommends birth control to 'solve the problem of the rapid growth of the minority population'.

Soon after Li's publication, Xinjiang set up new initiatives to implement systematic birth prevention campaigns in ethnic minority regions. An increasingly common outcome indicator of these initiatives (from 2017 and especially 2018) was the mandated target to 'optimize the population structure', or more commonly to 'balance the population structure' (*jun heng ren kou jie gou* 均衡人口结构) (e.g., Baicheng County Health Committee 2020; Gumudi Town Government 2019; Hotan City Family Planning Commission 2019; Kuqa County Government 2019; Xinhe County Government 2020). Family planning documents from Urumqi's Midong District for 2019 mandate the achievement of an 'appropriate fertility level' and of 'optimizing the population structure' as the two main goals of family planning work in order to achieve the region's 'general goal of social stability and long-term stability' (Gumudi Town Government 2019; Nilka County Government 2017). To this end, county family planning offices are required to:

Formulate the county's mid- and long-term population development plan and annual plan; be responsible for the macro-control of the county's newborn population and the review of applications for birthing another child due to special circumstances; manage the county's information system for women of childbearing age ... (Kuqa County Government 2019, 26.)

By the end of 2018, the region was fully equipped to control and forecast population growth at an extremely detailed level. Xinjiang had effectively created the preconditions for optimizing its ethnic population structure.



## Beijing's strategies to address southern Xinjiang's 'population problem'

### *Framing the ethnic minority 'population problem'*

In summary, Xinjiang's ethnic minority population – as measured by size, density and growth – is imagined by the state as a national security threat. Southern Xinjiang's ethnic composition is described as monoethnic (*min zu ren kou dan yi hua* 族人口单一化), whereas that of the north is commonly referred to as 'reasonable' (*he li* 合理) (e.g., Liu, Guo, and Li 2014, 39; Li 2017c, 72).

A review of the literature shows that related concerns centre around the following themes:

- Excessive ethnic minority population growth creates a growing rural surplus workforce that suffers from poverty and underemployment. Large numbers of unemployed (or underemployed) young Uyghurs constitute a 'severely excessive' rural surplus labour population, created by lax family planning policies, that pose a 'latent threat to the current regime' (e.g., Zhao and Song 2017, 30).
- High ethnic minority population density combined with low mobility reduces opportunities for ethnic interaction and breeds a 'hardened' society with an 'excessively strong atmosphere of religious belief that cannot be diluted', creating a breeding ground for religious extremism and terrorism (e.g. Lu and Guo 2017, 194).
- High ethnic minority population concentrations create a dangerous sense of identification with their homeland, weakening identification with the Chinese Nation-Race (*Zhong hua min zu* 中华民族) and the central government (e.g., Li 2017b, 68).
- Generally, high ethnic minority population ratios (i.e., low Han population ratios) are a national security risk for sensitive border regions such as southern Xinjiang (e.g., Liang 2019; Wang 2018).

Resolving these issues involves large-scale transfers of ethnic minority surplus labourers out of southern Xinjiang to regions with large Han populations. The Nankai Report, a Chinese research report on labour transfers from Xinjiang to other parts of China, noted that they serve to 'reduce Uyghur population density in Xinjiang' (Zenz 2021, 14). Other studies argue that labour transfers can 'crack open the solidified society in southern Xinjiang' and 'push [people] out of their closed state [of mind]' (Lu and Guo 2017, 194).

However, labour transfers alone cannot significantly change ethnic population structures in southern Xinjiang. For this, the state has to promote large-scale Han in-migration.

### *Counterterrorism through population embedding*

Counterterrorism-focused population optimization strategies do not merely seek to increase the raw number of Han in southern Xinjiang. They aim to intersperse Han and ethnic minority populations in targeted ways to mitigate the 'human problem' (*ren de wen ti* 人的问题) posed by the latter. The least sophisticated method is to increase XPCC settler populations in the region. However, as Li (2017c, 73) has noted, XPCC settlements often fail to promote the forms of meaningful ethnic interspersions required for counterterrorism purposes. The latter is better achieved through what the state and academia have conceptualized as 'embedding' (*qian ru* 嵌入).

In May 2014, during the 2nd Xinjiang Work Meeting, Xi Jinping demanded that Xinjiang ‘strengthen ethnic interaction, exchanges and blending, [and] promote the establishment of a social structure and environment in which all ethnic groups are mutually embedded’ (Li 2017c, 72). The Central Government Ethnic Work Conference elevated Xi’s call for ethnic embedding to a ‘national strategy’. As early as June 2014, Kashgar prefecture reported the first implementation efforts of the ethnic embedding strategy, which included the establishment of mixed residences, mixed Han–Uyghur schooling, and transfers of Uyghur workers and school students to Han majority regions in eastern China (Kashgar Prefecture Administrative Office 2014). Since then, numerous ‘Unity New Villages’ (*tuan jie xin cun* 团结新村) and urban ‘Ethnic Unity Embedded Neighborhoods’ (*tuan jie qian ru shi she qu* 团结嵌入式社区) have been established, especially in southern Xinjiang (China Wenming Net 2019; Mou 2016). In a 2018 academic publication, Liu Yilei (introduced in the previous section) called for the establishment of a ‘multi-ethnic embedded social governance structure’ (Liu 2018, 18). According to Li (2017c, 76), embedding is most commonly implemented at the community level.

Smith-Finley (2013, 17) writes that Uyghur symbolic resistance to Han dominance is reflected in a set of ‘symbolic, spatial and social boundaries’, but that the most obvious of these are ‘ethnically based patterns of settlement and residence’. Ironically, starting in 2016 and 2017, the government further reinforced spatial ethnic segregation by forcing Uyghurs to return to their original places of residence (Tynen 2020, 12–13). Several of the Chinese authors cited in this publication have noted that due to increased violent acts of resistance by Uyghurs, Han residents in southern Xinjiang isolated themselves in securitized compounds, exacerbating ethno-spatial segregation (e.g., Zhang 2016). However, embedded model projects and villages have continued to be built and expanded.

A 2017 research paper published by Gao Xuejing and Li Ming, researchers from the Xinjiang Police Academy and State Forestry Administration Police Officer Training Center, argues that ‘population embedding’ (*ren kou qian ru* 人口嵌入) is the key strategy to eradicate terrorism by ‘rapidly optimizing the population structure’ (Gao and Li 2017, 26):

[T]o completely eradicate terrorist crimes in Xinjiang it is necessary to completely eradicate the soil, the growth conditions and the environment in which terrorist mobs produce crimes. [To do so] ... it is necessary to rationalize the population structure, optimize the quality of the population, accelerate economic development, integrate ethnic cultures, and strengthen the legal foundation, etc. (33)

Specifically, Gao and Li suggest that the establishment of embedded communities requires a careful balancing of ‘desirable’ versus less desirable population segments:

Therefore, optimizing the proportions of the population and improving and enhancing the quality of the population – which is to solve the human problem – is the foundation of solving Xinjiang’s counterterrorism (and other) problems. Embedding the population is one of the simplest and most direct ways to solve the human problem. ... This will achieve the goal of diluting the proportion of the poor population, the proportion of the unemployed population, the proportion of the low-educated population, the proportion of [certain] ethnic populations, ... the proportion of the population with a criminal history, etc. (27)

Embedding therefore involves a targeted dilution of undesirable population segments, such as low-income, lesser educated and more traditionally minded Uyghurs who are seen as more susceptible to religious extremism and other ‘crimes’:

The Uyghur population is concentrated, with strong traditional cultural characteristics and weak modern cultural influence. The population has low [levels of] education [and of] Chinese language, has difficulty obtaining high levels of employment, and [suffers from] low income levels, resulting in low social status, insufficient social development, and many social problems. (Li 2017b, 77)

Subsequently, Li (2019, 110) argues that the establishment of embedded communities requires ‘calculat[ing] precise embedding targets’. Han-minority population ratios should range between 50:50 and 40:60. The goal of targeted embedding is the creation of a ‘cultural counterterrorism’ (*wen hua fan kong* 文化反恐) – a multi-ethnic environment where ‘religious extremism’ is unlikely to take root:

For example, according to the village’s cultural counterterrorism needs, the scope of the population with positive energy in the village should be expanded to 80% or 90% in a planned, step-by-step, and methodical manner, and the scope of the population with negative energy in the village should be reduced to 7%, or less than 3%. (110)

Here, persons with ‘positive energy’ or a ‘positive culture’ (*zheng wen hua* 正文化) are those who are more highly educated, more secular and more resistant to the creeping influence of ‘religious extremist thought’, while those with ‘negative energy’ (*fu neng liang* 负能量) are susceptible to ‘extremist’ thought (110). Planners must achieve ‘cultural counterterrorism’ outcomes based on concrete quantitative ratios and targets (113).

However, the implementation of Xi Jinping’s call for a ‘mutually embedded’ social structure in Xinjiang’s monoethnic strongholds is daunting. Li (2017c) concedes that ‘a considerable part’ of new Han residents must be brought in from Eastern China.

Li argues that Xinjiang’s population embedding strategy runs into acute resource limitations such as the high costs of constructing embedded communities, a lack of arable land, and a lack of water resources. Another study likewise suggests that embedding is hampered by ‘water shortages, sandstorms, droughts, desertification, and salinization’, and recommends curbing ethnic minority population growth (Zhang 2016).

### *The XPCC’s population expansion strategy for southern Xinjiang*

So far, Xinjiang has primarily relied on the XPCC to promote Han migration to Xinjiang. In 2017, the central government mandated the XPCC to increase its settler population in southern Xinjiang by 300,000 by 2022, a strategy that largely relies on attracting Han from other parts of China through promises of free land, housing, education and government jobs (Bai 2020). Attracting Han to become long-term residents in southern Xinjiang has long been a daunting challenge. Between 2000 and 2015, the region’s Han population (including the XPCC) increased by a mere 123,900, compared with a 2.5 million increase of the ethnic minority population (Liu 2017, 9). Between 2011 and 2019, only 33,676 of the 653,584 increase of the entire XPCC population (not just in southern Xinjiang) stemmed from natural population growth, with the other 94.8% coming from in-migration from other provinces (China Statistics Press 2020b, tabs 3-3, 3-4). Between 2018 and 2019, the XPCC’s population in southern Xinjiang increased by 69,900, whereas the same population only grew by 31,069 in 2018 (China Statistics Press 2020b, tab. 1-12). The state is actively pursuing its 2022 population target.

For the government this is a costly strategy. The construction of basic infrastructure required for additional XPCC populations costs nearly RMB 200 million for each additional 10,000 settlers and RMB 5.9 billion for the envisioned 300,000 settlers (Bai 2020, 29).

Most importantly, southern Xinjiang lacks the environmental and other resources to sustain large-scale Han in-migration.

### *The problem of limited carrying capacity*

For years, academics and officials have been researching and debating the problem of ‘carrying capacity’ (*cheng zai li* 承载力). Between 2000 and 2009, researchers from the Chinese Academy of Sciences (CAS) evaluated the population carrying capacity of Xinjiang’s different regions in relation to environmental and economic resources (Qian 2010).

In June 2016, a Hotan government report noted that 85% of the region’s population lived from agriculture, placing considerable pressure on the arable land. The report stated that, per capita, the available ecological resources were severely limited and that ‘the contradiction between population, economy and ecological carrying capacity is very prominent’ (Liu 2016).

A 2016 study of Hotan’s carrying capacity was funded by a national research project on establishing an ‘Early Warning System for Population Security in Typical Minority Areas in Southern Xinjiang under an Adjusted Fertility Policy’. Compiled by Ma Xiaoyu and other Xinjiang University academics (Ma, Ma and He 2016), it found that Hotan entered a state of ‘red alert’ since 2008 when the population surpassed the region’s resource-based carrying capacity. For 2014, the authors estimated Hotan’s ‘excess population’ at nearly 0.7 million persons and recommended stringent birth control measures.

Also in 2016, the Xinjiang government issued a regionwide notice regarding government unit cooperation with the Family Planning Commission. This included stipulations for the very mechanism researched and outlined in the 2016 Hotan study: an ‘Early Warning System for Population Security’ (XUAR Government 2016). Between 2017 and 2019, Xinjiang’s local family planning units were charged with ‘carrying out population [growth] monitoring and early warning [work]’ (e.g., Baicheng County Government 2019; Urumqi City Government 2018).

Similar calculations were conducted by other scholars, including academics from the XPCC’s Shihezi University. Their 2017 study estimated different types of carrying capacities for the XUAR, based on land, other ecological resources and the economy (Liu, Zhi and Liu 2017). The authors estimated Xinjiang’s ‘suitable population’ (*shi du ren kou* 适度人口) for 2015 at 21.3 million, 2.3 million below the actual population. The study expressed particular concern about the continually decreasing ecological carrying capacity (*sheng tai cheng zai li* 生态承载力), calculated based on land productivity and per capita ecological footprint, which decreased from 15.7 million in 2005 to 12.5 million in 2015. Increased per capita human consumption due to rising living standards led to a severe overutilization of resources. Growing economic carrying capacity is thereby offset by an excessive stress on natural resources.

Another study calculated the carrying capacity for rural populations (Li and Liu 2018). The authors estimated that rural Xinjiang’s per capita ecological footprint nearly doubled between 2000 and 2015 due to increased resource use in the wake of socioeconomic and industrial development. They calculated that Xinjiang’s rural population first exceeded its

ecological carrying capacity in 2013, and that by 2015, this 'excess' population had reached 1.9 million persons.

Another study from 2018 makes it clear where the key problem lies: the ecological carrying capacity is especially weak in southern Xinjiang, where limited arable land and water resources are coupled with an excessively high population density in the few inhabitable oasis regions (Zhang and Yong 2018). The study recommends 'resolutely curbing population growth' and implementing an 'ecological migration' of southern Xinjiang's surplus population to other regions.

These concerns are shared by the government. In April 2017, Wang Peian, deputy director of the National Health and Family Planning Commission, toured southern Xinjiang (PRC Government 2017). The report notes that he stressed the limited carrying capacity of southern Xinjiang, and made family planning an urgent task. The terminology and reasoning closely mirror that of the preceding academic studies.

Targeted measures such as labour transfers from primary to secondary or tertiary industries, resource optimization, greenhouse technologies and projects that convert desert into farmland can increase Xinjiang's ecological and economic carrying capacity. However, they all come with limitations.

A 2009 report found that 50 year-long efforts of turning desert into farmland through irrigation had created severe water problems, and that the region needed to pay farmers to halt irrigation and shift people into urban centres (Watts 2009). Similarly, a 2020 paper by Xinjiang-based researchers from the CAS argues that Hotan prefecture's population density of 301 persons/km<sup>2</sup> results in 'very high' pressure on local carrying capacity (Huo et al. 2020). The region's water utilization rate is 'much higher than the reasonable level'. If Hotan's population kept growing as it did between 2010 and 2017, the region would have to sustain an unrealistically high economic growth rate of 'at least 9.55 percent [annual GDP growth] for the next three decades'.

Similarly, a 2020 study in Aksu prefecture found that that the region's water resource carrying capacity in 2015 was 'severely overloaded', mainly due to agriculture (including cotton fields) and the textile industry (Zhao et al. 2021). Therefore, southern Xinjiang's limited carrying capacity problem can neither be readily alleviated by increasing arable land (through irrigation) nor through large-scale labour transfers out of agriculture.

While the state ignored such resource overutilization for years, the evidence indicates that this issue is gradually being taken more seriously.

Consequently, the state cannot simply add large numbers of Han to the region's existing ethnic minority population. Minorities must also be controlled or reduced through a combination of cross-regional labour transfers and sustained birth prevention.

## **Estimating the ethnic minority population reduction resulting from state-mandated birth prevention**

### *Definition of intent*

Xinjiang's academics and officials have long warned about issues such as high ethnic minority population growth or religious extremism. For years, the state did not tackle either issue as strongly as they had called for. Then, from 2017, the government instituted a string of extremely draconian measures, ranging from mass internment for political re-education to systematic birth prevention. Academics and officials that have pointed

out the urgent need to optimize the ethnic population structure have advocated for birth prevention and mass Han-in-migration as the two primary methods. The government's plan to move 300,000 Han to southern Xinjiang represents a clear step towards this second recommendation. Also, the state is already suppressing southern Xinjiang's natural population growth rates to levels that are broadly in line with the long-term optimization goals set out by scholar-cadres like Liu Yilei.

Based on the evidence discussed above, the government's intent regarding southern Xinjiang's ethnic population is therefore understood as being to optimize the population structure by increasing the ratio of the Han population in relation to the ethnic minority populations through in-migration of Han, out-transfers of ethnic minorities and reducing ethnic minority birth rates. This is intended to boost various forms of interethnic mixing and embedding, while simultaneously ensuring that the resulting total population does not drastically exceed the overall combined economic and ecological carrying capacity.

The 'destruction in part' through birth prevention that will likely result from this intent can be defined as the difference between:

- the projected natural population growth rate and resulting total population if such measures were not being imposed by the state, taking into account that family planning preferences change over time in line with socio-economic development; and
- the projected natural population growth rate and resulting total population with state-imposed birth prevention measures in place, in accordance with the government's intent as defined above.

Below, it is estimated that this difference could range between 2.6 and 4.5 million lives.

Liu Yilei lamented that southern Xinjiang's Han population share (including Bayingol) was < 15%. In 2018, this share amounted to 13.2% (China Statistics Press 2019, tab. 3-7). Arguably, the bigger problem is southern Xinjiang's four Uyghur majority population prefectures, excluding Bayingol (Bayingol's ethnic minority population was only 46.7% in 2018). Their Han population share in 2018 was only 8.4%. (All further references to 'southern Xinjiang' refer to these four prefectures.)

What would constitute an adequate Han population share for solving southern Xinjiang's 'population problem'? Officials and academics emphasize that northern Xinjiang's Han population share of 56.0% in 2018 is 'reasonable' (China Statistics Press 2019, tab. 3-7). If 50% of southern Xinjiang's population were embedded at a 50:50 ratio, its Han population share must at least nearly triple to 25%.

### *Projecting southern Xinjiang's natural population growth*

To estimate southern Xinjiang's future natural population growth rate without heavy-handed government interference, we turn to Chinese population projections.

In a 2020 study published in an international peer-reviewed journal, a group of Xinjiang-based researchers from the Xinjiang Institute of Ecology and Geography, CAS, projected that Hotan's population would increase from its 2017 level of 2.52 million to between 3.92 and 4.27 million by 2040 (Huo et al. 2020). The team employed the population projection application PADIS-INT and based their projection on Hotan's total fertility rate (TFR) between 2010 and 2017, which they calculated to be 3.3, and therefore substantially higher than the TFR of 1.8 specified for Hotan in Xinjiang's 2010 census

data. A TFR of 3.3 is comparable with Pakistan, a Muslim nation without family planning. The team created several projection scenarios, assuming that Xinjiang would abandon family planning along with the rest of the nation. The high projection scenario assumed that birth rates would increase when government birth restrictions were removed. The low projection scenario did not assume such an increase, and instead postulated that by 2040 the TFR would gradually fall to the 1.8 level of the 2010 census. The CAS is closely associated with and funded by the central government in Beijing, and its research strongly influences and informs government policy (Zhang 2019).

Another projection was conducted by graduate research supervised by Xinjiang University's Ma Xiaoyu (Pang 2018). This study employed 2010 census TFR data. The scenario that assumed no changes in Xinjiang's pre-2017 family planning policies estimated that southern Xinjiang's population (including Bayingol) would grow from 11.58 million in 2017 to approximately 15.3 million by 2040 (by 32.1%). In contrast to the CAS study, it did not account for actual population changes after 2010, including substantial numbers of unreported births uncovered by the state after that year (cf. Zenz 2020b, 5, 10).

The present study adopts the more sophisticated and internationally peer-reviewed CAS study's low projection for Hotan, which forecasts a 55.4% population increase between 2017 and 2040 (versus 69.1% increase for the high-growth scenario). The low projection is chosen since Hotan's annual natural population growth (2010–17) was higher than in the other three prefectures (on average by 3.5 per mille annually during that period). This projection also comes closer to the birth allowances stipulated in Xinjiang's 2017 family planning policy, although Beijing's recent decision to permit up to three children expands birth restrictions for Xinjiang's urban population (BBC 2021).<sup>7</sup> To further guard against possible overestimation stemming from extrapolating Hotan's data, the low projection's estimate was reduced by 30%, resulting in a projected population increase for southern Xinjiang between 2017 and 2040 of 38.8%, to 14.35 million. This increase is only slightly above the 2018 Xinjiang University study's 32.1%. It estimates southern Xinjiang's ethnic minority population at 13.14 million by 2040 – the baseline figure for estimating population loss due to birth prevention.

The year 2040 was chosen as it seems a reasonable time frame for the pursuit of a goal that is both ambitious yet also described as 'urgent'.

### *Estimating ethnic minority population loss from birth prevention*

The author performed iterative calculations in an Excel spreadsheet to estimate southern Xinjiang's population dynamics and ethnic composition by 2040 for different natural population growth rates.

Besides official baseline population figures<sup>8</sup> for 2018 from the *Xinjiang Statistical Yearbook* (China Statistics Press 2019, tab. 3-7), other variables were:

- annual Han in-migration;
- Han natural population growth in southern Xinjiang;
- ethnic minority out-migration (including labour transfers) to other regions; and
- ethnic minority natural population growth.

Between 2011 and 2018, the Han population in southern Xinjiang (including the XPCC) fell by nearly 26,000 persons to 865,203 persons. Plans to increase this population by 300,000 by 2022 include Bayingol, a region with a significant number of XPCC settlements. If 80% of this figure (240,000) would go to southern Xinjiang (excluding Bayingol), then that would result in an annual in-migration of 48,000 Han. Despite the major costs and difficulties of attracting and retaining permanent Han residents, an ambitious figure of 45,000 is assumed to reach a conservative ‘destruction in part’ estimate.

Between 2010 and 2018, Han natural population growth rates in XPCC regions averaged only 1.37 per mille. Here, a fixed growth rate of 1.5 per mille is assumed, again a conservative figure that likely overestimates such growth until 2040. However, this variable has little influence on the outcomes.

Ethnic population out-migrations are complex to estimate. Between 2017 and 2019, an estimated 79,000 Uyghurs and others were transferred from (mostly southern) Xinjiang to other parts of China (Zenz 2021, n. 51). It is unclear whether these transfers, as well as transfers between southern and northern Xinjiang, imply a permanent relocation. In the first 10 months of 2018, 364,000, or 13.3%, of all labour transfers had destinations outside people’s home prefectures, but these are not necessarily permanent and include seasonal labour (Zenz 2021, 17). A rare exception is a report that in the first 11 months of 2017, Hotan transferred 22,368 labourers to other parts of Xinjiang on a ‘long-term stable’ basis (Zhang 2017). Here, it is assumed that annually 50,000 workers are transferred to other parts of Xinjiang (35,000) and China (15,000) in the form of permanent relocation. It is also assumed that by 2020, 200,000 transferred labourers had permanently relocated to other parts of Xinjiang (150,000) and China (50,000). These assumptions only influence the resulting calculations in relatively small ways. The calculations also assume that natural population growth among permanently transferred populations is identical to southern Xinjiang.

Table 2 shows five scenarios with different natural population growth rates since southern Xinjiang’s natural population growth rates for 2018/19 and planned rates for 2020/21 broadly range between 5.00 and –2.50 per mille (cf. Table 1).<sup>9</sup> It is unlikely that births would be reduced to zero (resulting in –6.37 per mille natural population

**Table 2.** Southern Xinjiang population projections.

Ethnic minority natural population growth rate (per mille)	–5.0	–2.5	0	2.5	5.0
Southern Xinjiang’s ethnic minority population in 2040 (and compared with 2017) (millions)	7.48 (–1.99)	7.88 (–1.58)	8.31 (–1.15)	8.76 (–0.70)	9.24 (–0.23)
Southern Xinjiang’s Han population in 2040 (millions)	1.91	1.91	1.91	1.91	1.91
Han population share in 2040 (%)	25.5%	24.2%	22.9%	21.8%	20.7%
Total population in southern Xinjiang in 2040 (and compared with the adapted Chinese Academy of Sciences (CAS) model projection) (millions)	9.38 (–4.96)	9.79 (–4.56)	10.22 (–4.13)	10.67 (–3.68)	11.14 (–3.20)
Ethnic minority population transferred outside of Xinjiang by 2040 (including their natural population growth) (millions)	1.13	1.16	1.20	1.24	1.28
Total ethnic minority population (in southern Xinjiang plus those transferred to other parts) by 2040 (millions)	8.61	9.05	9.51	10.00	10.51
Ethnic minority population projection without state interference by 2040 (millions)	13.14	13.14	13.14	13.14	13.14
Ethnic minority population loss from birth prevention by 2040 (millions)	4.53	4.09	3.63	3.14	2.63

Note: Minor discrepancies result from rounding.

Source: For calculations, see the supplemental data online.



growth)<sup>10</sup> because that would quickly become noticeable and lead to a gradual collapse of the education system.

For the state, lower growth rates have several important advantages:

- Only the lower end scenarios achieve Han population shares of around 25% by 2040.
- Less Han in-migration is required to achieve a 25% target.
- For natural population growth rates between  $-5.00$  and  $0$  per mille, southern Xinjiang's total population in 2040 is lower than the 10.39 million in 2018. This reduces the pressure on the land and simplifies policing and surveillance.

The estimated population loss from suppressed birth rates in southern Xinjiang alone ranges between 2.6 and 4.5 million.

Growth rates between  $-2.5$  and  $+2.5$  per mille seem most likely. They enable better concealment from international scrutiny, maintaining a functional education system, achieving desired Han population shares within a generation while limiting the total population within reasonable limits. The resulting ethnic minority population loss would range between 3.1 and 4.1 million of 13.14 million (24–31%). For the same growth range, population projections from the study (Pang 2018) that used TFRs from the 2010 census without accounting for subsequent population changes or unreported births results in losses of 2.0–3.5 million, out of a total projected ethnic minority population of 12.5 million (20–28%).

Overall,  $-2.5$  per mille growth could be most ideal from the state's perspective because it results in a lower total population than 2018 (9.05 versus 9.49 million), while achieving a 24.2% Han population share by 2040. Importantly, actual or planned growth rates in much of southern Xinjiang are already declining to levels that are compatible with such optimization goals.

## Conclusions

This paper has established the existence of an intent to reduce ethnic minority population growth in order to increase the proportionate Han population in southern Xinjiang. This intent is explicitly espoused by Chinese academics and officials, and to a significant degree reflected in related policies. Involuntary birth prevention measures could result in a loss of several million lives. A smaller ethnic minority population will also be easier to police, control and assimilate.

Arguably, the strategy to optimize the population gives us a clear understanding of the government's long-term intent regarding southern Xinjiang's ethnic minority populations, especially in light of recent natural population growth declines following a large-scale campaign to prevent births.

The most concerning aspect of this strategy is that ethnic minority citizens are demonized and framed as a 'problem' that threatens an otherwise 'healthy' society (cf. Roberts 2020, 16–17). Some Chinese scholars even called it a 'human problem' (*ren de wen ti* 人的问题) (e.g., Gao and Li 2017, 27). This language is akin to purported statements by Xinjiang officials that problem populations are like 'weeds hidden among the crops' where the state will 'need to spray chemicals to kill them all' (Zenz 2018, 21). Such a framing of an entire ethnic group is highly concerning.

## Notes

1. Prefecture and county socio-economic development reports (*guo min jing ji he she hui fa zhan tong ji gong bao* 国民经济和社会发展统计公报). Some counties in the sample are represented by data for the prefecture that governs them.
2. Kashgar's 2018 death rate was 5.56 per mille, while Yingjisha, Yopurga and Shufu counties reported 2019 death rates of 5.13, 6.60 and 6.66, respectively (sources: county socio-economic development reports).
3. While the source is not a government website, the details of the report can easily be authenticated, including the existence of the other mentioned public document: *zizhiqu 'guan yu jia qiang he gai jin Nanjiang si de zhou ji hua sheng yu gong zuo de yi jian'* (*xin dang ting zi* [2017] 38 hao) [Autonomous Region "Opinions on Strengthening and Improving Family Planning Work in the Four Prefectures of Southern Xinjiang"]; or the identity of the hosting vice-governor (Wuqia County Government 2018; Kizilsu Prefecture Government n.d.).
4. The speech is summarized on Xinjiang University's website (Xinjiang University School of Economics and Management 2020).
5. The term is also employed for China in general, but then typically with a broader range of meanings.
6. Chinese: *Zhong hua min zu* (中华民族).
7. Extrapolating projections for Hotan to the rest of southern Xinjiang is not as accurate as modelling based on prefectural data, but sufficient for the purpose of achieving a general baseline estimate. Due to incomplete data, the CAS study also had to rely on interpolation for Hotan. The CAS study accounted for small migration flows reported in the 2010 census, with only minor impact on projections. This is ignored, given that the state would deliberately engineer much greater population flows.
8. The initial set of 2020 Xinjiang census data published in June 2021 could not be used for any aspect of the calculations, given that it contained neither ethnic population breakdowns by region nor natural population growth rates.
9. The calculations assume that southern Xinjiang's natural population growth in 2019 and 2020 was 2.00 and 1.00 per mille, respectively, which is broadly based on the limited available evidence presented above.
10. Southern Xinjiang's average death rate for in 2018 weighted by population was 6.37 per mille (China Statistics Press 2019, tabs 3-6, 3-7).

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