

Mapping ethnic migration in mainland China from the early 1960s to 2010

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Featured graphic. Mapping ethnic migration in mainland China from the early 1960s to 2010

This study aims to map ethnic migration activities associated with a significant change in the mix of ethnicities for a given area in China from the early 1960s to 2010, and to ascertain where and among which ethnic groups such activities were prevalent in the past 50 years. To our knowledge, this is the first effort toward a nationwide mapping of ethnic migration in China in the past 50 years that has been undertaken.

To achieve this, we utilized the Geo-referencing of ethnic groups (GREG) dataset, a widely used ethnic distribution dataset developed by Weidmann et al. (2010); the LandScan 2010 population grid; and 2010 census data for China. The original data in the GREG dataset are drawn from the well-known 1964 Soviet *Atlas Narodov Mira*.

The methodology used builds on the following rationale: if there is no ethnic migration, then for each administrative region such as a county, the estimated population for each ethnic group using GREG and LandScan should be consistent with the ethnic population census data within that county. Otherwise, we can assume that there have been several ethnic migration activities during the analysis period.

We thus overlay the GREG data with the national county administrative map and census-adjusted LandScan 2010 to derive the estimated ethnic population for each county in 2010 and compare this data array with the 2010 population census data at the county level and compute Pearson's r . If there has not been significant ethnic migration from the early 1960s to 2010, Pearson's r should be very close to 1; otherwise, it should be closer to 0.

The first map shows trends in ethnic migrations activities during the analysis period using a rule of thumb for interpreting correlation coefficients by Hinkle et al. (2003) (Figure 1). For counties with moderate, substantial, and extensive ethnic migration activities (Pearson's r lower than 0.7), we identified major ethnic groups that penetrated the living areas of other ethnic groups as well as ethnic groups whose living areas were penetrated by other ethnic groups. Based on the results, we drew up five maps for the Han, and identified four ethnic

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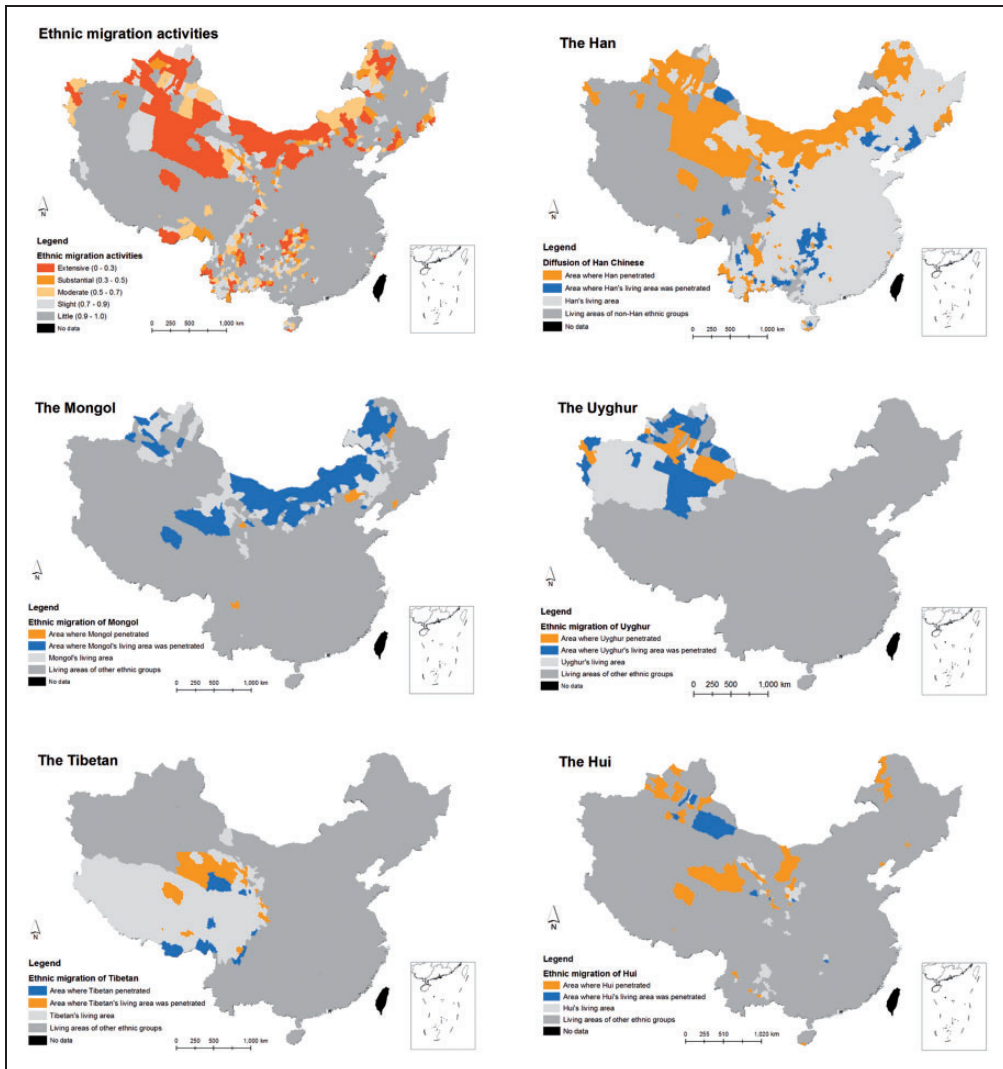


Figure 1. Map of ethnic migration activities in mainland China from early 1960s to 2010.

minorities of interest: the Mongol, Uyghur, Tibetan, and Hui (Figure 1). Note that population movements into sparsely populated areas are highlighted on the map whereas movements into cities appear very small in visual effect because a normal land area map is used.

- Over 90.3% of 2862 counties have a Pearson's r of above 0.7, suggesting that most counties in China have not experienced significant ethnic migration; 135, 58, and 84 counties each account for 4.7%, 2.0%, and 2.9% of all counties, with Pearson's r lower than 0.3, between 0.3 and 0.5, and between 0.5 and 0.7, which indicate extensive, substantial, and moderate ethnic migration activities, respectively.

- Extensive and substantial ethnic migration activities generally occurred in the bordering areas of mainland China such as Inner Mongolia, northern Qinghai, eastern Xinjiang Uyghur Autonomous Region, and impoverished southwest China.
- The Han Chinese have been major immigrants, with a tendency to migrate to Inner Mongolia, northern Qinghai, and eastern Xinjiang, where the Mongol, Tibetan, and Uyghur traditionally lived; this is supported by the fact that the living areas of the Mongol, Tibetan, and Uyghur were penetrated by other ethnic groups, notably the Han Chinese. These massive Han immigration activities may be explained by the migration policies into these areas for military security and economic development reasons in late 1960s as well as the “Open up the West” campaign since 1999 by the central government.

Declaration of conflicting interests

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