

RUDN Journal of World History ISSN 2312-8127 (Print), ISSN 2312-833X (Online)

2025 Vol. 17 No. 1 63–75 http://journals.rudn.ru/world-history

Вестник Российского университета дружбы народов. Серия: ВСЕОБЩАЯ ИСТОРИЯ

ORIENTAL STUDIES ИЗ ИСТОРИИ ВОСТОКА

DOI: 10.22363/2312-8127-2025-17-1-63-75

EDN: BMOYKC

Research article / Научная статья

History of economic and demographic development of the northwestern Chinese city of Xi'an (1949–1978)

Svetlana B. Makeeva

Institute for Demographic Research — Branch of the Federal Center of Theoretical and Applied Sociology of the Russian Academy of Sciences, *Moscow, Russian Federation*

⊠ msbmag9581@yandex.ru

Abstract. This study has been prepared within the framework of one of the current areas of historical research — regional and urban history. It presents the modern evolution of the northwestern Chinese city from the founding of the People's Republic of China in 1949 to the transition to the policy of "reform and openness" in 1978. The purpose of the study is to determine the main vectors of the economic and demographic history of the city of Xi'an based on the use of Chinese-language materials and the application of historical, genetic and statistical research methods. As a result, it was established that the strengthening of the agricultural sector and industrial base of Xi'an was influenced by the restoration of the urban economy in the early years of the PRC, the construction of large facilities with the help of the Soviet Union in the 1950s, and inclusion in the "three-line construction" projects from 1969 to 1974. A decrease in the pace of urban construction was observed during the implementation of the "Great Leap Forward" campaign and occasionally during the "Cultural Revolution". One of the main vectors of Xi'an's development was the transfer of production capacities and scientific and technological experience from the provinces and cities of Eastern China to the northwestern city in question.

Keywords: PRC, regional history, industrial base, three-line construction, population, national economy

Funding. The study was funded by the RSF, grant No. 24-28-00276. URL: https://rscf.ru/en/project/24-28-00276/

© Makeeva S.B., 2025



This work is licensed under a Creative Commons Attribution 4.0 International License https://creativecommons.org/licenses/by-nc/4.0/legalcode

Conflicts of interest. The author declares no conflicts of interest.

Article history: Received: 25.08.2024; Accepted: 6.11.2024.

For citation: Makeeva SB. History of economic and demographic development of the northwestern Chinese city of Xi'an (1949–1978). *RUDN Journal of World History*. 2025;17(1):63–75. https://doi.org/10.22363/2312-8127-2025-17-1-63-75

История экономико-демографического развития китайского северо-западного города Сианя (1949–1978 гг.)

С.Б. Макеева

Институт демографических исследований, Федеральный научно-исследовательский социологический центр Российской академии наук, *Москва, Российская Федерация*

⊠ msbmag9581@yandex.ru

Аннотация. Исследование проведено в рамках одного из актуальных направлений региональной и городской истории. Представлена современная эволюция китайского северо-западного города в период от основания Китайской Народной Республики в 1949 г. до перехода к политике «реформ и открытости» в 1978 г. Цель исследования — определение основных векторов экономико-демографической истории города Сианя на основе использования китаеязычных материалов и применения историкогенетического и статистического методов исследования. В результате установлено, что на усиление сельскохозяйственного сектора и индустриальной базы Сианя оказало влияние восстановление городского хозяйства в первые годы существования КНР, строительство крупных объектов при помощи Советского Союза в 1950-е гг., включение в проекты «трехлинейного строительства» с 1969 по 1974 гг. Снижение темпов городского строительства наблюдалось в условиях осуществления компании «Большой скачок» и эпизодически в период «культурной революции». Одним из основных векторов развития Сианя выступал перенос производственных мощностей и научно-технологического опыта из провинций и городов Восточного Китая в рассматриваемый северо-западный город.

Ключевые слова: КНР, региональная история, промышленная база, трехлинейное строительство, население, народное хозяйство

Финансирование. Исследование выполнено за счет гранта Российского научного фонда № 24-28-00276, URL: https://rscf.ru/project/24-28-00276/

Заявление о конфликте интересов. Автор заявляет об отсутствии конфликта интересов.

История статьи: поступила в редакцию: 25.08.2024; принята к публикации: 6.11.2024.

Для цитирования: *Макеева С.Б.* История экономико-демографического развития китайского северо-западного города Сианя (1949–1978 гг.) // Вестник Российского университета дружбы народов. Серия: Всеобщая история. 2025. Т. 17. № 1. С. 63–75. https://doi.org/10.22363/2312-8127-2025-17-1-63-75

Introduction

In order to undertake a comprehensive study of the history of the People's Republic of China, it is essential to engage in rigorous research that explores the evolution of social, economic, demographic, ethnic and cultural phenomena within major Chinese cities and regions. A prominent example of this is Xi'an, a globally renowned Chinese city with a history spanning millennia, which is currently undergoing significant contemporary regional transformations, thus offering a valuable case study for research. As the capital of Shaanxi, one of the best-developed provinces in the Northwest region, Xi'an has undergone a period of dramatic agrarian and industrial growth since the second half of the 20th century, which brought about a significant increase in its population and better quality of life. After the People's Republic of China was established in 1949, Xi'an's agricultural sector underwent substantial transformation and a new industrial foundation was laid for its urban development. Three decades of planned economy from 1949 up to the transition to the policy of 'reform and opening-up' in 1978 also brought about rapid regional economic changes in Xi'an.

China's regional history has received certain academic coverage mainly in the works of Chinese scholars, with some aspects of Xi'an city evolution at the present stage being intermittently explored. In Chinese historiography, one of central topics in the study of the history of northwestern Chinese cities is the problem of regional economic growth from the perspective of China's emerging industrial base. Xi'an industrial development is discussed in the works of such Chinese scholars as Wang Taixi, Yin Jun, Zhao Weiwei, Cao Huajuan [1–4]. Another area of research is the evolution of land use in Xi'an, studied in the works of Zhang Chunling, Jin Na, Liu Yafeng, Zhang Xia [5–8]. The history of Xi'an territorial and demographic development is intermittently explored in the works of Zhou Jun, Lei Yu, Li Junli, Wang Xiang, Hao Jianhua, Huang Zihao, Zhang Jing, Wang Yongli [9–16].

This study endeavors to examine the history of economic and demographic development of a northwestern city of Xi'an in China under the conditions of planned economy within the period between 1949 and 1978. The established chronological time frame was further subdivided into two shorter periods: the first spanned from 1949 to 1957 and was the time when public urban economy was being restored with a parallel transition to planned economy; the second lasted from 1958 to 1978 and was characterized by a series of challenges and adjustments in order to address numerous shortcomings. The article uses principal historical sources characterizing economic and demographic development of Xi'an from 1949 to 1978. The sources encompass materials

from the PRC population censuses conducted in 1953 and 1964, along with five-year plans for national economic construction from 1953 to 1957, 1958 to 1962, 1966 to 1970, 1971 to 1975, and 1976 to 1980, and statistical compendium on the industrial development of all Chinese provinces from 1949 to 1989.

The study employs historical and genetic methods of research, which enabled to identify cause-and-effect relations and regularities in Xi'an's industrial and economic development together with demographic changes in the given territory; while statistical methods were used to process quantitative data related to the history of economic and demographic development of the city.

Rebuilding Urban Economy in Xi'an and Five-Year Planning

By the time the People's Republic of China was founded in 1949, Xi'an, the capital of northwestern Shaanxi Province, was in economic decline. On 15 January 1950, the Communist Party of China established its provincial committee of Shaanxi Province in Xi'an, with Communist Zhao Boping as its leader. In the 1950s, the office of Xi'an mayor was held by Fang Zhongzhu. From 1949 to 1952, Xi'an's urban economy underwent a period of recovery that included transformations in the land-use, industrial, construction, and commercial spheres. During this period, the city acquired forty-three new state-owned enterprises and 1,741 private industrial organizations. In order to rebuild Xi'an's public sector and regulate its transition to a planned economy, the city established Xi'an Finance and Economic Commission in 1950 and Xi'an Municipal Planning Bureau in 1951 [17. P. 87].

During the reconstruction period from 1949 to 1952, Xi'an underwent a nationwide land reform, based on the transformation of earlier production relations in the city's rural economy. The reform was implemented under the supervision of local CPC Committee and Xi'an's People's Government. Shortly after the PRC establishment in 1949, rural worker families in Xi'an received an aid to overcome their plight and restore their former productive base. The Chinese government further encouraged them to improve agricultural production technologies, and rebuild and develop the agricultural sector. Most of the landless and disadvantaged were given the opportunity to cultivate plots of land, which ensured rapid development of agriculture. The agrarian sector of Xi'an's suburban areas underwent significant socialist transformations, characterized by the establishment of economic systems based on collective property and the advancement of agricultural communal production practices. Xi'an's rural economy quickly recovered from the aftermath of civil war.

By 1952, Xi'an's total agricultural output had risen from 138 million yuan in 1949 to 186 million yuan, and total grain production from 456,000 tons to 551,000 tons [18. P. 151].

During the reconstruction period, Xi'an's government also paid considerable attention to developing the manufacturing sector. Between 1949 and 1952, the city implemented a regional industrial policy with the aim of providing financial support for the machinery industry, supplying raw materials, purchasing produce, and regulating labour relations. Within just three years, industrial production in Xi'an was up and running. Despite the difficulties of the reconstruction period, large state-owned industrial enterprises such as Northwest Textile Factory, People's Flour Milling Factory and Xi'an Paint Factory were established in Xi'an.

The period between 1953 and 1957 was the time when China's first nationwide five-year plan was being implemented in Xi'an. Transformations affected both agrarian and industrial sectors of Xi'an's public economy. The implementation required a large amount of labour, material and financial resources, invested in Xi'an's regional development to carry out socialist economic construction. From 1953, the total public investment in Xi'an increased 17-fold compared to the recovery period between 1949 and 1952. In rural areas, 2,575 agricultural co-operatives were set up based on scientific and technological advancements to grow new varieties of crops. The production of chemical fertilizers also saw significant innovations, thereby facilitating agricultural growth. By 1956, Xi'an's suburban areas featured a lot more cultivated lands, which led to a notable increase in the production of grain, and also of cotton and oilseed. Livestock breeding was rapidly developing as well. In 1957, meat production in Xi'an reached 6783 tons, eggs — 31 million tons, milk — 5071 tons. Xi'an's agricultural output totaled 246 million yuan. In 1957, the agricultural sector of Xi'an boasted a swine herd of 240,000 and a dairy cow herd of 1,415 [1. P. 160].

The First Five-Year Plan laid foundations for socialist industrialization in Xi'an through creating China's regional northwest industrial infrastructure and through ensuring security of its national defence industry. By 1954, all enterprises in Xi'an were operating in accordance with a unified planning system. The government identified Xi'an as an important manufacturing city, where 17 out of 156 heavy industry construction projects were to be carried out with the support of the Soviet Union. Among those 17 projects, implemented in Xi'an with Soviet assistance, were the Huanghe State Machinery Plant, Qinchuan Machinery Plant, Baqiao Thermal Power Plant, High Voltage Circuit Breaker Plant, Electrical Engineering Plant, Dongfang Machinery Plant, Dielectric Material Warehouse, Chemical Plant,

Optical Instrumentation Plant, Huashan Machinery Plant and Thermal Power Plant in Hu County of Xi'an [2. P. 23–28].

As part of the First Five-Year Plan, Xi'an attained 66 large and medium-sized state-owned enterprises such as Northwest Cotton Factory, a textile factory, an agricultural equipment factory and a pharmaceutical factory. Enterprises were grouped into the city's three main industrial areas — the 'Textile City', the 'Electromechanical City' and the 'Military Industrial City'. Further development of those areas served to reinforce heavy industry as a primary focus of Xi'an's industrialization.

By the time the first Five-Year Plan was completed in 1957, all industrial businesses in the city had been transformed into state-owned enterprises, including 2,983 public-private joint ventures and 357 craft co-operatives. Grain, cotton and other major agricultural products were subject to unified nationwide procurement and marketing as part of a planned economy. By 1957, socialist transformations in agriculture, handicraft production, industry and trade had been completed. The goals of the Plan were reached ahead of schedule with 1 billion 410 million yuan invested in Xi'an during the entire period from 1953 to 1957. As the first Five-Year Plan reached its conclusion, Xi'an experienced an enhancement in the economic status of all sectors of urban development. The GDP for 1957 reached 802 million yuan, and the local budget totaled 488 million yuan [1. P. 94–101].

Xi'an development from 1949 to 1962 was primarily driven by the restoration of the military-industrial complex and the relocation of some state-owned enterprises from eastern China. In the early years of the People's Republic of China (PRC), a predominant industry in Xi'an was agriculture. In 1949, primary industry accounted for more than 60% of the regional GDP; however, with the advent of industrialization, secondary industry grew to account for 42.7% by 1962, thus having surpassed primary industry for the first time [19. P. 3–9].

Xi'an's urban economy during Great Leap Forward Campaign and Third Line Construction Policy

When China was implementing its Second Five-Year Plan (1958–1962), Xi'an embarked on the next phase of construction projects with the support of the Soviet Union, resulting in the construction of the Xi'an Aircraft Factory and the Aircraft Engine Factory. The USSR's contribution to the construction project in Xi'an was substantial, encompassing integrated production technology, technical equipment, and highly skilled labour expertise. This contribution had a significant impact on the industrial development of the region. Another major achievement

of Xi'an's industrial rise in the 1950s was the construction of Northwest Electric Machinery Factory. With the support of scientific base and expertise of Shanghai Transport University, Xi'an established an identical university of its own, thereby consolidating its mechanical engineering complex.

Concurrently, China initiated the Great Leap Forward Campaign, a policy that proved to be detrimental to the national economy, precipitating a substantial decline in Xi'an's agricultural and industrial output. Consequently, living standards experienced a sharp decline. During the 'Big Leap' period, Xi'an's rural workers were involved in steel production and railway construction. Severe effects of the Great Leap Forward Campaign were further amplified by natural disasters, with the agricultural sector being hit particularly hard. In 1961, grain production in the area fell to 489,000 tons, back to 1950 levels. In turn, the fall in grain crops seriously affected livestock production. By 1962, Xi'an had 138,100 cattle, 187,500 pigs, and 139,500 sheep. Total meat production fell by 35.4 per cent, with Xi'an's miscellaneous output dwindling to 1.651 billion yuan and GDP 922 billion yuan. In order to resolve the problems, the city initiated a policy of 'regulating, strengthening, enriching, enhancing' under the supervision of the Communist Party [20. P. 177–188]. Special attention was paid to the development of heavy industry and the construction of regional infrastructure. These policies helped restore the agricultural sector in Xi'an within the period between 1963 and 1965. By 1965, the total output amounted to 2.68 billion yuan, and GDP increased to 1.276 billion yuan [4. P. 1–5].

The Cultural Revolution, a period of significant social and cultural upheaval in China spanned from 1966 to 1976. It was the time when the third (1966–1970) and fourth (1971–1975) five-year plans were being put into practice. The repercussions of this period were profound, particularly with respect to infrastructural development in Xi'an, which suffered considerable damage. By the end of 1960, Xi'an's total industrial output exceeded 2 billion yuan, a 2.28-fold increase over 1957. However, the effects of the Great Leap Forward Campaign and severed production agreements with the Soviet Union led to a 54.44 per cent decline in industrial output. The city continued to transform its economy in a number of ways. According to statistics, within 10 years from 1966 to 1976, the city's GDP increased by an average of 5.1%, and the total volume of industrial and agricultural production rose by an average of 5.9% [5. P. 55–59].

Under harsh conditions of the 'Cultural Revolution', it was to Xi'an's advantage that the city was included in third-line construction projects from 1969 to 1974. Xi'an became an important site of China's strategic economic hinterland. The PRC government invested heavily in the construction of large

and medium-sized defence science and technology enterprises and civilian institutions in central and northwestern provinces and cities, including Xi'an. A large number of research institutes, colleges and universities were relocated to Xi'an from eastern provinces and cities. The capacity of processing industries increased, and urban infrastructure was undergoing gradual transformations. Xi'an's suburban rural areas focused on water conservation, land-based agroproduction planning, yield-increasing technologies, and crop protection. The production of grain, cotton, oilseeds and vegetables was increasing each year [21. P. 23–29].

In the years of 'third-line construction', Xi'an emerged as an important aviation, aerospace, textile, machinery industrial base of the Northwest China region. The capacity of its processing industries rapidly enhanced. A number of large and medium-sized state-owned enterprises from eastern coastal provinces and cities were relocated to Xi'an, where they were expanded and merged with such facilities as Zhongxing Electric Machinery Factory, a transformer factory, a machinery factory, an alarm system factory, and a chemical factory. The manufacturing base of 'third-line construction' projects in Xi'an included a blower machine factory, Hong'an Machinery Factory, Hongqi Wristwatch Factory, and a sewing machine factory. At this time, Xi'an experienced considerable growth and development in the aerospace, electro-mechanical and light industries. By 1976, the city's GDP was increasing by an average of 6% annually, an impressive result of Xi'an's inclusion in the 'third-line construction' program. Thus, with the support of the Chinese government, Xi'an underwent a period of significant industrial development from 1958 to 1978, encompassing the sectors of textile, electromechanical, instrumentation, pharmaceutical, construction, agricultural, and machinery industries.

Xi'an's spatial and demographic development from 1949 to 1978 in light of its economic transformations

Following the establishment of the People's Republic of China in 1949, Xi'an was included in the country's regional policies for the development of Northwest China. As part of China's transition to a planned economy, it became common practice to draw up urban development plans. In Xi'an, such plans centered around creating an industrial city with a focus on machine building and textile industries. Building military-industrial complex was made a priority along with the establishment of numerous scientific and educational institutions, and textile industry enterprises. The 1950s urban development plan for Xi'an designated the city's central district as a commercial and residential

area. The southern suburban districts were to become a cultural and educational area, the northern suburban districts were allocated for a large-scale cultural and historical heritage protection zone and storage area, the eastern suburban districts — for a textile-industrial area, and the western suburban districts — for an electrical and mechanical engineering area. Another pivotal factor in shaping Xi'an's urban landscape was developing railway infrastructure. By 1978, the city had a substantial high-speed railway junction, with nine metro lines in operation [6. P. 145–148].

In the period between 1949 and 1978, Xi'an's administrative-territorial structure underwent several transformations, and ultimately had seven districts and six counties within its territory. The city comprised urban areas proper and suburban rural areas. In time, the population of urban districts exhibited an increase, whilst the population of suburbs underwent a decline. While in 1949, Xi'an urban areas accounted for 33.92% and rural suburban for 66.08%, by 1978, urban areas reached 43.21% and rural suburban areas dwindled to 56.79 per cent. In 1949, Xi'an's urban development was mainly concentrated in the 'old city' area with the population of 443,300 and the urbanization rate of only 19.50%. According to statistics, in 1949, Xi'an comprised eight urban and four suburban rural areas with the registered population of 2,273,300. In 1950. Xi'an was officially designated the capital of Shaanxi Province. As of 1952, the number of urban residents reached 2,529,200 people, of which men numbered 1,341,169 and women — 1,188,100 [7. P. 39–43].

In 1954, Xi'an was transformed into a provincial municipality and divided into nine districts: Xincheng, Beilin, Lianhu, Changle, Yanta, Epan, Weiyang, Caotang and Baqiao. In 1957, Changle and Weiyang districts were separated from Xi'an, and in 1958, Chang'an, Lantian, Lintong and Ye counties were incorporated into the city's territorial structure. In 1960, Lianhu, Beilin and Xincheng counties underwent transformations. In 1961, Lantian and Lintong counties were transformed into Weinan Municipal District and Ye County was transformed into Xiangyang Municipal District. In 1964, Qiu County was renamed Zhouzhi County. From 1965, the districts of Baqiao, Yanta, Epan and Weiyang became suburbs of Xi'an. By 1965, the population of Xi'an City had increased to 4 million, and in 1970, the number of Xi'an's urban residents reached 4,351,000. In 1971, Xiangyang urban area ceased to be part of Xi'an City. By 1978, the city's population reached 4,981,000 people [8. P. 3–9].

In the period between 1949 and 1978, Xi'an's population was predominantly Han Chinese, along with scattered and mixed ethnic minority groups with the Hui, Manchus, and Mongols being the most numerous. Other ethnic minorities included Tibetans, Uighurs, Zhuans, Tujia and Miao.

ИЗ ИСТОРИИ ВОСТОКА 71

Xi'an's population exhibited positive dynamics, as evidenced by an increase of 2,707,000 people between 1949 and 1978. The period between 1949 and 1969 was characterized by rapid population growth, while the 1970s represent a period of inertial population growth. Throughout all three decades, the type of population reproduction in Xi'an was characterized by high birth rate, low death rate and high natural increase. Thus, Xi'an boasted a high fertility rate, with three peaks in 1954, 1957 and 1963, reaching rates ranging from 38.09 to 41.16%. The recovery of Xi'an's urban economy led to improved social conditions and a decline in the mortality rate from 8.86% in 1952 to 6.66% in 1978. [9. P. 131–132]. In the late 1970s, the government adopted a birth control policy aimed at reducing the number of newborn children, which inflicted a significant blow to Xi'an's demographic development. In 1978, one-child policy became a primary measure in China's economic and demographic development, meant to provide for population control and improve the quality of the population.

Throughout the period under study, improving socio-economic living conditions of the population was one of principal thrusts of the city's social policy. The government of Xi'an employed a variety of strategies to address the issue of urban unemployment. In 1949, a special department was set up to assist the unemployed in securing employment. Subsequent to this initiative, in June 1950, the city established a commission with the objective of providing assistance to those experiencing financial hardship. Furthermore, concerted efforts were made to raise the educational level of the population. Xi'an had very few research institutions and fewer than a hundred technical staff. In 1955, the government adopted a policy of relocation, moving educational and research institutions from the eastern provinces and cities to the central and western regions. Consequently, Xi'an emerged as a prominent Chinese city, boasting a substantial presence of academic institutions, including numerous universities and research facilities. While in 1949 there were only 1,374 students in vocational schools and universities, in 1978 their number increased to 28,785. The illiteracy rate in Xi'an was decreasing every year. According to 1964 statistics, the number of illiterate urban residents in Xi'an was 1,008,700, with an illiteracy rate of 26.18%. The government of Xi'an initiated a far-reaching program to implement nine-year compulsory education and eliminate illiteracy among the youth and middle-aged demographics. Concurrently, the city experienced an uptick in income for its population, alongside an expansion in employment opportunities for skilled workers and an enhancement in the standard of education. Consequently, while the per capita income in Xi'an was 78 yuan in 1957, it increased to 123 yuan in 1965

and reached 130 yuan in 1975 [10. P. 31–38]. Consequently, from 1949 to 1978, Xi'an experienced periods of population growth, territorial expansion, and the enhancement of its citizens' socio-economic conditions.

Conclusion

Having looked at the history of economic and demographic development of Xi'an, a city in northwestern China, in the early decades of the PRC from 1949 to 1978, the author has identified major events that influenced its agrarian and industrial urban economy during the city's economic recovery and the first five-year plans implementation. The growth of Xi'an's agriculture and industry was boosted by the city's development in the early years of the PRC and the construction of large facilities with Soviet help in the 1950s. Additionally, the city's integration into the 'third-line construction' projects from 1969 to 1974 played a crucial role in its economic advancement. However, the 'Great Leap Forward' campaign caused a decline in urban construction, further aggravated in the period of 'Cultural Revolution'. Xi'an received an important impetus for further development when the government made a decision to transfer production capacities and scientific and technological expertise from the East of China to this northwestern city. Throughout three decades from 1949 to 1978, Xi'an developed an advanced economic base in predominantly textile, electromechanical, instrument-making, pharmaceutical, construction, agricultural, and machine-building industries. Xi'an's economic growth led to its expansion into suburban rural areas, as well as the increase in the urban population and higher living standards. By the time China embarked on its 'reform and opening up' policy in 1978, Xi'an had evolved into a pivotal hub within the established northwestern industrial base, characterized by a substantial concentration of state-managed heavy industry enterprises. Concurrently, the city had been facing a decelerated population growth trajectory, largely attributable to the diminishing birth rates resulting from the nationally enforced 'one child' family planning policy.

References

- 1. Wang T. Xian shi geti jingji de lishi he xianzhuang [History and Current Situation of Individual Economy in Xi'an]. *Journal of Northwest University: Philosophy and Social Sciences*. 1984;(4):94–101. (In Chin.).
- 2. Yin J. Xian shi 1950–1980 niandai qi shiye danwei zhuzhai zaisheng chutan [A Preliminary Study on the Regeneration of Residential Buildings of Enterprises and Institutions in Xi'an from 1950s to 1980s]. *Theoretical Research on Urban Construction*. 2012;(2):23–28. (In Chin.).

- 3. Zhao W. Kuaisu chengshi hua Beijing xia de Xian shi gongye yongdi shikong yanbian fenxi [Analysis of spatiotemporal evolution of industrial land in Xi'an under the background of rapid urbanization]. *China Population Resources and Environment*. 2009;(19):64–69. (In Chin.).
- 4. Cao H. 1949 Nian yilai shanxi nongye keji fazhan yanjiu [Research on the Development of Agricultural Science and Technology in Shaanxi since 1949]. *Northwest A&F University*. 2012;(1):1–5. (In Chin.).
- 5. Zhang Ch. Xian shi gengdi bianhua qudong li yanjiu [Research on Driving Forces of Cultivated Land Change in Xi'an]. *Arid Zone Resources and Environment*. 2003;(17):55–59. (In Chin.).
- 6. Jin N. Xian shi tudi liyong bianhua ji renwen qudong li fenxi [Analysis of land use changes and human driving forces in Xi'an]. *Journal of Jiangxi Agricultural Sciences*. 2011;(1):145–148. (In Chin.).
- 7. Liu Y. Xian shi tudi liyong dongtai bianhua pingjia [Evaluation of dynamic changes in land use in Xi'an]. *Science and Technology Management of Land and Resources*. 2007;(6):39–43. (In Chin.).
- 8. Zhang X. Xian shi renkou, ziyuan, huanjing, jingji, shehui xitong zonghe fazhan pingjia yanjiu [Research on comprehensive development evaluation of population, resources, environment, economy and social system in Xi'an]. *Rural Economy and Science and Technology*. 2012;(11):3–9. (In Chin.).
- 9. Zhou J. Cheng zhongcun xiandaihua gaizao dui chengshi hua jianshe de yingxiang yi Xian shi cheng zhongcun de gaizao wei li [The impact of modernization of urban villages on urbanization construction Taking the reconstruction of urban villages in Xi'an as an example]. *China Economic and Trade*. 2013;(20):131–132. (In Chin.).
- 10. Lei Y. Xian chengqu renti shushi du bianhua tezheng fenxi [Analysis of the characteristics of human comfort changes in Xi'an]. *Green Technology*. 2021;(2):31–38. (In Chin.).
- 11. Li J. Xian shi renkou de fenbu biandong yanjiu [Research on the distribution changes of Xi'an's population]. *Human Geography*. 2005;(1):121–125. (In Chin.).
- 12. Wang X. Xian shi renkou yu jingji ouhe guanlian yanjiu [Research on the coupling correlation between population and economy in Xi'an]. *Resource Development and Market*. 2014;(8):917–920. (In Chin.).
- 13. Hao J. Xian shi renkou yu jingji xietiao fazhan de tongji fenxi [Statistical analysis of the coordinated development of population and economy in Xi'an]. *Science and Technology Information*. 2009;(1):405–408. (In Chin.).
- 14. Huang Z. Xian shi renkou laoling hua dui jingji shehui de hongguan yingxiang yanjiu [Research on the macro-impact of population aging in Xi'an on economy and society]. *Journal of Jiamusi Education Institute*. 2014;(2):92–98. (In Chin.).
- 15. Zhang J. Xian renkou chengzai li zhuangkuang fenxi [Analysis of population carrying capacity in Xi'an]. *Modern Economic Information*. 2016;(13):65–69. (In Chin.).
- 16. Wang Y. Xian shi renkou yali dingliang pingjia [Quantitative evaluation of population pressure in Xi'an]. *Journal of Agricultural and Forestry Economic Management*. 2011;(3):103–108. (In Chin.).
- 17. Xian lishi [History of Xi'an]. Xian: Weilai chubanshe, 1988. (In Chin.).
- 18. Xian lishi lue [Brief History of Xi'an]. Xian: Shanxi bowuguan, 1959. (In Chin.).
- 19. Gao W. Jizhong anzhi fangshi de "cheng zhongcun" gaizao xianzhuang ji wenti yanjiu yi Xian shi wei li [Research on the current situation and problems of "urban villages" reconstruction in centralized resettlement mode Taking Xi'an as an example]. *Xian University of Architecture and Technology.* 2007;(5):3–9. (In Chin.).

- 20. Makeeva SB. Causes, evolution and consequences of uneven regional development in the PRC in the modern period of history: an overview of approaches and practices in Chinese science. *RUDN journal of World History*. 2021;13(2):177–188. https://doi.org/10.22363/2312-8127-2021-13-2-177-188 EDN: LQOEDG
- 21. Zhang J. Xian shi yongshui jiegou bianhua ji qudong li fenxi [Analysis of water use structure changes and driving forces in Xi'an]. *Water Resources Protection*. 2012;(4):23–29. (In Chin.).

Information about the author:

Svetlana B. Makeeva — Doctor of Sciences (History), Head of the Department of Historical and Regional Demography, Institute for Demographic Research — Branch of the Federal Center of Theoretical and Applied Sociology of the Russian Academy of Sciences (IDR FCTAS RAS), 6 Fotievoy St., Moscow, 119333, Russian Federation, e-mail: msbmag9581@yandex.ru ORCID: 0000-0003-2953-0411. SPIN-code: 6442-8153.