

A systems approach to urban health and wellbeing has come of age

in China

Xinhu Li

1. Ecological civilization is no longer only a conceptual innovation but also a key national governance strategy in China.
2. The State Council released the worldwide first national strategy for the circular economy, and the circular economy became a national development strategy in China .
3. The "Healthy China 2030" Plan issued by the CPC Central Committee and the State Council confirmed the central position of the 'Healthy China plan' to the Chinese Government's agenda for health and development.
4. China has the biggest population in the world and has been experiencing the largest migration in history. Its rapid urbanization has profound and lasting impacts on local, national and international public health.
5. While at the individual level, people choose behaviors or living environments which relate to their own health, the option for improving well-being should be provided by the government



About the author

Li Xihu, born in Inner Mongolia, graduated from the College of Resources and Environment, Southwest University, received a bachelor of Soil Agricultural Chemistry and a master's degree in soil science. He joined the Institute of Geographic Sciences and Natural Resources Research, Chinese Academy of Sciences, and obtained a doctorate degree in Cartography and Geographic Information Systems. During his Ph.D. degree, he studied on the environmental factors of human birth defects and jointly developed a geographical detectors-based health risk assessment method. This method was later developed into an application software and is widely used.

After obtaining his Ph.D. degree, Li Xihu entered the Institute of Urban Environment of the Chinese Academy of Sciences and began to study health problems in the process of urbanization. In 2011, he went to the Irish National University of Galway for a short visit. He was awarded K.C. Wong Education Foundation Visiting Scholars Program in 2012 and visited the University of Pennsylvania, School of Design from 2012 to 2013.

In recent years, his main research interests have focused on urban health and wellbeing, using the method of spatial analysis, modelling and remote sensing. His research perspective on health begins with the spatial distribution of environmental risk factors and diseases, and extends to human wellbeing involving ecosystem health, economic and social conditions at different scales.

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ECOLOGICAL CIVILIZATION

The Chinese government has been paying attention to ecological and environmental issues for many years. In 1983, environmental protection was identified as a basic national policy during the Second Environmental Protection Working Conference. Sustainable development was established as a national strategy after the 15th CPC National Congress in 1997. Ecological civilization was proposed for the first time during the 17th CPC National Congress in 2007, and elevated as a political outline and national strategy of governance during 18th CPC in 2012.

On September 21, 2015, the CPC Central Committee and State Council issued the "Overall Plan for the Reform of Ecological Civilization System" which defined the overall design and roadmap for an ecological civilization in the future. In 2016, the concept of green development was proposed and ecological civilization was incorporated into the 13th Five-Year Plan. The introduction of all these major policies means that ecological civilization is no longer only a conceptual innovation but also a key national governance strategy for China. Furthermore, under the influence of this strategy, a series of practical actions have been implemented. To achieve the green development target, the government has taken a series of actions for intensive resources use and energy conservation, including the water regulations, farmland protection regulations, and environmental regulations in addition to promoting energy savings and industrial structural adjustment.

CIRCULAR ECONOMY

More than ten years ago, China's central government recognized the economic and environmental risk of the nation's heavy resource exploitation, and adopted the circular economy as the principal means of dealing with these problems. The circular economy is a system in which the use and waste of resources and energy are minimised by closing material and energy cycles. In 2005, China's State Council issued a policy paper called "Several Opinions of the State Council on Accelerating the Development of Circular Economy". According to this document, the Development and Reform Commission, together with relevant departments such as the Environmental Protection Administration and other relevant departments, should carry out supervision and inspection of the development of the circular economy and report to the State Council.

A series of taxation, fiscal, pricing and industrial policies were introduced to promote the development of the circular economy. A fund was set up to support the conversion of industrial parks into eco-industrial agglomerations. In the 11th Five-Year Plan (2006-2010), a whole chapter was devoted to the circular economy. In 2008, The Fourth Session of the Standing Committee of the 11th National People 's Congress of the People' s Republic of China adopted the circular-economy promotion law, which demanded that local governments consider circular economy in their investment and development strategies. In the 12th Five-Year Plan (2011-2015), the circular economy was upgraded to a national development strategy. The State Council released the first national strategy for circular economy in the world in 2013.

In 2016, the General Office of the State Council issued the "extension of the producer responsibility system" to implement the program. Electrical and electronic products, automotive products, lead-acid batteries and packaging products were chosen as pilot categories. The implementation of the producer responsibility extension system will help to build a circular waste disposal system and to make use of the long-term promotion of the ecological civilization.

HEALTHY CHINA 2030

As early as September 08, 2007, at the annual meeting of the China Association for Science and Technology, Minister of Health Chen Zhu announced the three-step strategy of "health protection and wellbeing well-off, well-off rely on health", and revealed the relevant action plan. This strategic plan aims to achieve three objectives: 1) the initial establishment of the basic health care system framework for urban and rural residents by 2010, 2) to develop China's health care system to the forefront of developing countries by 2015, and 3) by 2020, to maintain the status of Healthy China at the forefront of the developing countries, and the eastern part of the urban and rural areas and some of the urban and rural areas close to or reach the level of middle developed countries.

On August 17, 2012, the Ministry of Health issued the "Healthy China 2020 Strategic Research Report". It proposed eight health-related policy recommendations. In 2015, in his report to the government, Premier Li Keqiang first proposed "to build a healthy China." The Fifth Plenary Session of the Eighth Central Committee of the Party further put forward the task requirements of "promoting the building of Healthy China".

In August 2016, president Xi said at the National Health Conference that health was a prerequisite for people's overall development and a precondition for economic and social development. Following the National Health Conference, in October 2016, the CPC Central Committee and the State Council issued the "Healthy China 2030" Plan, and issued a notice calling on all localities and departments to implement the plan, which confirmed the central position of Healthy China 2030 plan to the Chinese Government's agenda for health and development. This document is the first medium to long term strategic plan in the health sector developed at the national level since the founding of China in 1949.

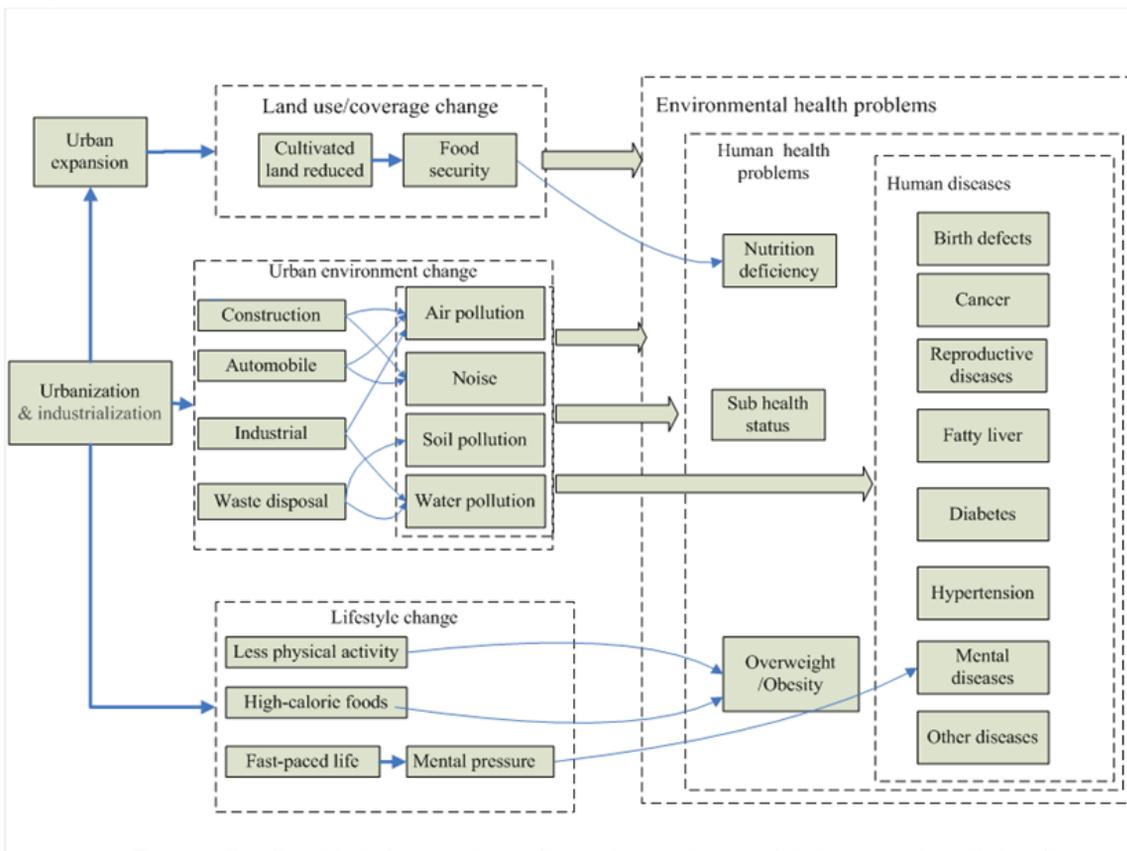


Figure 1: Relationship between urbanization, urban environmental change and public health

CASE STUDIES

The research group of Dr. Li Xihu at the Institute of Urban Environment, systematically analyzes the ways and factors influencing the health of the population affected by urbanization in China, and puts forward relevant strategies and policy suggestions from the national, local and individual levels. Figure 1 illustrates how systemic changes in the environment as a result of urbanization pose numerous threats to human health. Rapid and often unplanned, urban growth is a source of environmental hazards, which have direct and indirect effects on human health. Urban expansion is one of the major driving factors of land use change in China, with extensive effects on local ecological systems through reducing biodiversity, air deterioration and contributing to water shortages. Accelerated urbanization along with explosive economic growth has further worsened the shortage of agricultural land over the last two decades with possible consequences for food security and nutritional deficiencies threatening the overall health status of the population.

Reduced cultivated land places pressures to intensify agricultural production which depends on both the progress of agricultural technology and higher use of fertilizer and pesticides. Such inputs have repercussions for the availability of safe food, and also for the price of food, as fertilizer costs increase in line with oil prices. A multi-level understanding of the relationship between the features of China's urbanization, urban environmental change and risks to public health provides the basis for identifying interventions at national, local and individual levels.

POLICY RECOMMENDATIONS

Based on the evidence provided by our research group, attention needs to focus on the following key public health domains:

1. a pollution-free environment
2. a safe and diverse food supply
3. a health system that addresses the needs of hard-to-reach groups
4. planning for healthy cities
5. health behavior education

While at the individual level, people choose behaviors or living environments which relate to their own health, the option for improving well-being should be provided by the government (Figure 2). Coordinated action by the central government, the local government and the public in each of these areas could advance the goal of health and wellbeing for all of citizens in China. The figure below describes the major categories of health promoting activity alongside the administrative or governance level which has major responsibility for the activity, the types of regulatory or change mechanism which would be involved, and examples of the types of measurable indicators of achievement towards the shared goal of improved health and well-being.

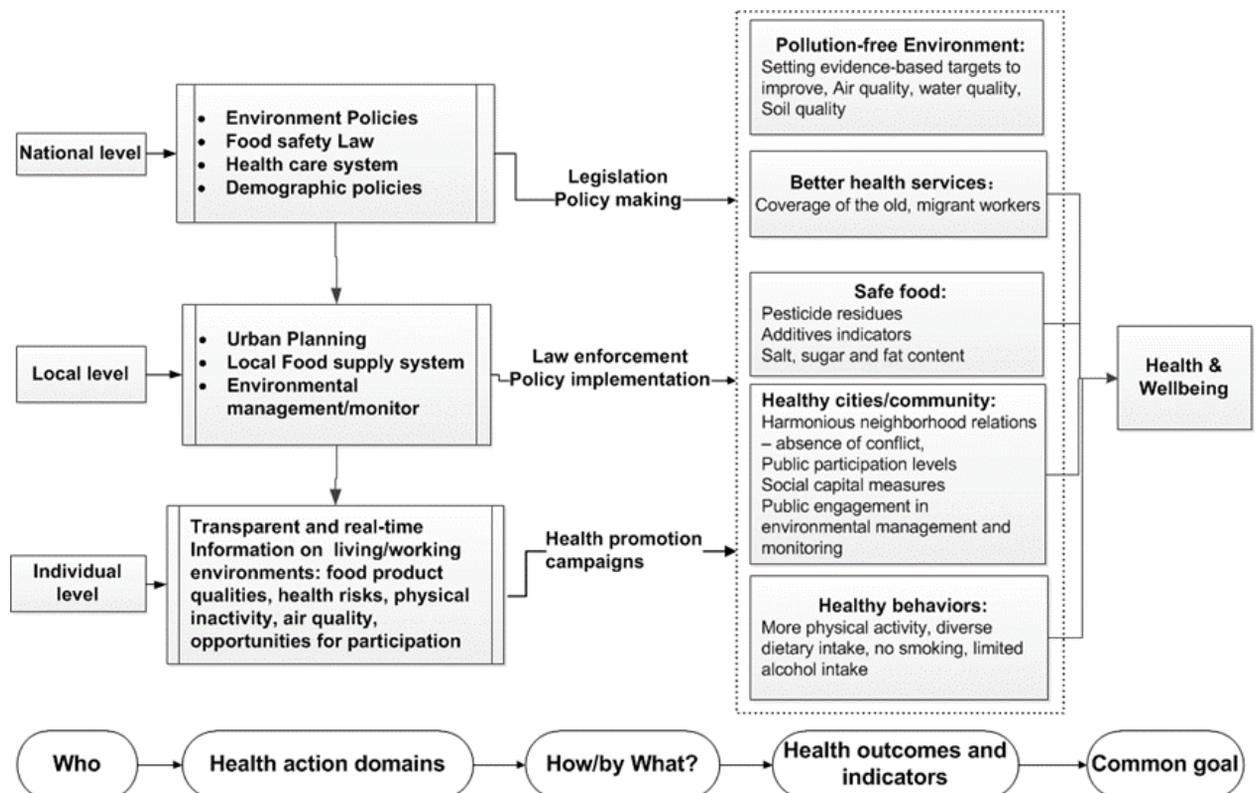


Figure 2: Choices of health promoting behavior at individual level and options for improving well-being at governmental level

Reference

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The *Urban Health and Wellbeing: a Systems Approach* (UHWB) programme, is a global science programme, of the International Council for Science (ICSU). The vision of the programme is: cities functioning as integrated complex systems which sustainably provide benefits for the health and wellbeing of its residents. It aims at (1) promoting and coordinating research, (2) developing and identifying data needs, (3) building and strengthening capacity and (4) communicating new knowledge.

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The Policy Briefs of the UHWB programme aim at highlighting and drawing attention to policy relevant findings and insights from research and researchers and communicating them with decisionmakers at all levels of society in order to encourage the co-creation of knowledge for healthy urban environments and people.



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