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Improving Quality of Life in the Qinba Mountains Region: A Research Program on the Impact of New Urban Development

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Abstract: In recent years, a major migration program has been under way in the Qinba Mountains region of China's Shaanxi Province. The initiative aims to alleviate poverty, prevent natural disasters, and improve quality of life for local residents. Policies to achieve these goals include restoring the natural environment, promoting new job opportunities, and building new urban developments. This paper suggests a longitudinal research scheme in the Qinba Mountains region that focuses on measuring progress in enhancing quality of life for the local population. The research aims to grasp the social implications of migration, and is based primarily on the population's perception and evaluation. The program affects three groups: migrants who have moved to the new urban developments; the current rural population (some of whom may eventually become migrants); and the residents in existing cities and towns impacted by the new construction. Such research can be used to monitor the program's progress, identify its influence on each group, and contribute to future planning and policymaking in Shaanxi and other Chinese provinces. This paper briefly reviews the theoretical and methodological aspects of quality of life research, and outlines an approach for conducting a study in the Qinba Mountains region.

Keywords: quality of life research; social survey research; social impact assessment; migration; new urban development; Qinba Mountains region

1 Introduction

Throughout most developed and developing countries, there is an increasing interest in developing and enhancing societal well-being. Political leaders are paying more attention to improving their citizens' quality of life (QOL) as their countries experience economic growth accompanied by wide-ranging benefits, as well as unintended social and environmental consequences. China is no exception. This paper reviews a major program being implemented in the Qinba Mountains region of southern Shaanxi in central China that intends to improve the lives of impoverished rural residents while creating new urban settlements and enhancing established urban population centers. This manuscript then discusses the need to assess the program's impacts on the groups most directly involved. These include rural migrants moving to the new urban developments, the current rural population (some of whom may eventually become migrants), and the urban populations in existing cities and towns near the new construction. Next, the paper suggests why comprehending these groups' QOL is important for evaluating the program's effectiveness in order to serve as a guide for future planning and implementation of the program throughout the region. A brief review of the literature on general and urban QOL is then presented from a theoretical and measurement perspective. Finally, the paper outlines research aimed at monitoring QOL in the area.

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2 How urban development affects QOL in the Qinba Mountains region

2.1 Background

The Qinba Mountains region is one of the 14 national contiguous, but destitute, districts in central China. It is characterized by rural poverty, low levels of urbanization, and limited agricultural output caused by a shortage of arable land. The Qinba Mountains region also experiences frequent natural disasters and environmental deterioration. Geographic barriers have weakened the urban-rural industrial linkage for sharing information and creating a workforce. These barriers further impede urbanization and intensify poverty among the area's rural population [1].

During the 1990s, a series of government-led programs were implemented that focused on reducing poverty in the Qinba Mountains region (e.g., the Chinese Government's Seven-Year Priority Poverty Alleviation Program and the World Bank's Qinba Mountains Poverty Reduction Project). In 2011, the Shaanxi Provincial People's Government launched a more integrative approach to eliminate poverty while facilitating urbanization and addressing environmental problems. A ten-year ecological migration plan was designed to relocate 2.4 million rural residents from ecologically fragile, rural zones to urban zones, as well as to rural areas considered to be more ecologically and economically stable [2]. As of 2014, more than 1.4 million migrants had been resettled. Nearly 70% of households have been relocated to master-planned urban settlements, with a majority of them concentrated in and near the cities of Ankang, Hanzhong, and Shangluo. The regional urbanization rate in these cities has rapidly increased by 6% [3,4].

To accommodate a growing population, a series of new urban development projects have been created in southern Shaanxi Province. Additional developments are currently being planned [5]. Consequently, mass migration and rapid development are significantly reshaping the urban and rural landscapes.

2.2 Approaches to understanding the impacts of landscape changes

There are two methods for understanding the potential economic and social consequences of these shifting landscapes. A macro-level technique can be used to assess the outcomes of regional development using objective economic and social indicators (e.g., poverty incidence, urbanization rates, life expectancy, income levels, and education levels). This approach has been used and reported in recent government documents and academic publications, which have concluded that the migration plan has been successful in promoting overall economic well-being in the area [6–8].

A micro-level method can also be used to determine the plan's success. Furthermore, it can guide future planning and development by assessing the social impacts of new urban developments. This would involve examining people's QOL in the places where they live; that is, their satisfaction, behavior, and psychological and physiological well-being. This approach has been used in a number of urban areas around the world by investigating the quality of urban life (QOUL) in these areas' cities, regions, and rural hinterlands [9].

As a fundamental goal of the government-led migration program (including building new urban developments) is to improve the overall QOL of the area's population, it seems appropriate to use people's subjective evaluations, expectations, and well-being as a set of indicators to determine the program's success. The views of the groups whose lives the program affects are as critical to sound planning and program evaluation as the objective indicators derived from the macro-level approach. The population includes rural migrants moving to the new urban developments, current rural residents who may eventually become migrants, and the urban citizens living in existing cities and towns near the new construction.

Together with attributes of the built and human environment, migration policies can contribute to people's QOUL both directly and indirectly. For instance, as the program's primary beneficiaries, new migrants are expected to experience significant improvements in their household incomes, living conditions, accessibility to public amenities, and greater job opportunities. The concentrated resettlement community is the scheme most widely promoted by the local government since it is intended to maintain social ties among the immigrant population. It is also more efficient in terms of allocating subsidies and providing amenities [5,10]. However, studies in Western countries have discovered the potential risk of creating socioeconomically homogenous communities (especially low-income, concentrated communities), which can generate social segregation, community mismanagement, and new urban poverty [11,12]. The extent to which planned resettlement facilitates or hinders migrants' ability to adapt to urban life remains unclear. An in-depth empirical investigation focusing on QOUL would help determine the potential benefits and drawbacks of implementing such policies.

Similarly, changes in the residential environment (including demographic makeup) may result in social advantages or stress for the nearby urban population. Their QOL may rise due to the incoming workforce and improved urban amenities. However, a conflict of interest between new migrants and existing residents could also result from the reallocation of public welfare and employment opportunities, as well as from different cultural values between the two groups. Empirical research could determine the extent to which these conditions exist for both groups and guide future planning and programs.

2.3 The importance of understanding how new developments affect QOL

After launching a series of large-scale ecological migration

programs in other parts of China (e.g., Inner Mongolia Autonomous Region, Gansu Province, Ningxia Hui Autonomous Region), an increasing number of scholars have begun to examine the short- and long-term consequences. Most studies have focused on these programs' economic and ecological outcomes [8,13–15]. Recently however, discussions have focused on their social and cultural implications [16–20]. To a certain extent, the institutional migration program remains an untested social experiment, and its potential long-term results for the region and its population are not yet fully understood. The Qinba migration program is only partially complete; new urban developments now house more than two-thirds of the region's migrant households. Future developments are being planned to house additional migrants from rural areas.

To guide planning for future developments and to learn from previous efforts, it is necessary to carry out a longitudinal study on QOUL in migration communities and surrounding areas. The research would also cover the rural population, the majority of which are likely to become future migrants. Such a study would benefit governmental officials, policymakers, and urban planners in several ways. Following are some examples of ways in which these entities might benefit from such research.

(1) Such a study would provide an independent and objective approach for evaluating the program's achievements from the perspective of the populations that are most affected.
(2) A longitudinal study can help monitor the program's progress and social consequences.
(3) Such a study can provide insights for possible program adjustments that could be made in order to achieve the program's goals while identifying issues that policymakers have not previously considered.
(4) A longitudinal study can identify what aspects of the physical plan and specific design attributes of neighborhoods and housing are most likely to contribute to people's QOL and residential satisfaction. This can in turn assist planners, architects, and government officials to establish design guidelines and efficiently allocate public resources and urban amenities.
(5) Such a study may be used to examine the program's impact on specific populations among both new migrants and established urban residents. For instance, groups, including those from low-income households, the elderly, youth, women, and specific ethnic groups, could be followed over time to determine the ways in which the program is affecting their lives.

3 QOL: Theoretical and methodological perspectives

QOL is a phrase that politicians and government officials in many countries have espoused for decades. It has generally referred to the well-being of societies and individuals, and has been used with reference to themes ranging from international development, healthcare, and employment in a range of places such as countries, cities, and their neighborhoods. Beginning in the 1960s, scholars from a variety of disciplines began to question the meaning of the term and how it might be assessed and measured [21,22]. Over the years, measurement has been pursued via two paths: one using objective indicators, and the other relying on a more subjective approach [23] .

The objective technique typically relies solely on secondary data aggregated by various geographic units such as a country, city, or smaller entity including census units, police districts, or geographic boundaries for schools. Secondary sources typically include records from a governmental unit or intergovernmental entity such as the United Nations or the World Health Organization [24].

The subjective approach relies heavily on primary data collected at the disaggregated or individual level using social surveys that address people's behavior, as well as assessments of different aspects of their lives. The seminal work of Campbell, Converse, and Rodgers [22] best typifies this approach: they argue that quality is a subjective phenomenon, and that QOL takes on different meanings for different individuals. What might be viewed as high quality by one person or group may not be viewed as high quality by other individuals or groups. Hence, Campbell et al. conceptualized individuals' "quality of life experience" as their overall psychological well-being or life satisfaction [†]. Furthermore, their conceptual framework considered QOL as consisting of one's assessment or level of satisfaction with various domains of life—family, marriage, health, financial situation, spirituality, leisure, and place of residence including one's individual dwelling, neighborhood, community, and country. Using data from a national survey of Americans, Campbell et al. empirically demonstrated the relative importance of each of these domains to the overall QOL experience. While community, neighborhood, and housing were not the most important predicators of life satisfaction, the place where one lived influenced individual well-being [22].

In another context, the urban geographer Gerald Mulligan and his colleagues [28] defined QOL as the satisfaction a person receives from the surrounding human and physical conditions, which are scale-dependent and can affect the behavior of individuals and groups (such as households) and economic units (such as businesses). This definition more accurately reflects QOL in a place or what has typically been referred to as QOUL. Over the years, researchers from several disciplines, including urban planning, have examined QOUL and the factors associated with it [9]. QOUL research has not only dealt with communities, but also neighborhoods and dwellings as well as the social and

[†] Satisfaction and well-being are certainly not the only ways of conceptualizing QOL; more recently, happiness has been focused upon as another measure and subject of research [25–28].

environmental factors that contribute to each of these locations. Urban planners, designers, and architects consider many of these factors in their work. These elements are the ingredients that make up various types of places (such as those found in new urban developments); therefore, these sites can potentially contribute to residents' overall well-being.

Fig. 1 displays a theoretical model depicting hypothetical elements of QOUL [9]. The model implies that people's satisfaction with the domains of housing, neighborhood, city, or town and country, together with their satisfaction with other aspects of their lives (e.g., family, health, and financial situation), contribute to overall well-being or QOL. Furthermore, the model suggests that satisfaction with any of the place domains is a function of how people perceive and evaluate sets of the domain's specific attributes. For example, people's perceptions of local schools, traffic, noise, and crowding would influence their satisfaction with their neighborhood. Finally, their assessments of these characteristics relate to the attributes themselves. For instance, people's feelings about crowding in their neighborhood is likely to be associated with the actual number of dwelling units per square kilometer (for a detailed discussion of the model, see Marans & Rodgers, 1975; Marans, 2003) [29,30].

In the last few decades, a series of empirical studies on QOUL have been conducted around the world. Examples include a national study of new communities in the USA [31,32], a study of the Metro Detroit area (USA) [33], and the Queensland (Australia) urban area [34]. These empirical investigations have significantly contributed to developments in theory and research methodologies [9], and have been used to shape local and national policies.

Three key types of indicators measure QOUL [9]:

(1) Objective indicators: aggregate level data adopted from secondary sources (e.g., census data) that represent a geographic region's demographic, economic, social, and environmental conditions.

(2) Subjective indicators: primary data collected through social surveys at the individual level, which reflect people's subjective perceptions of different aspects of urban life.

(3) Behavioral indicators: behaviors from secondary data, social surveys, or observations including people's work patterns, social relations, and other daily activities (e.g., travel modes, leisure and recreation, community participation, and family life).

Most empirical studies on QOUL have relied on subjective and behavioral indicators. However, depending on context and research interests, some studies have also incorporated the objective indictors and considered the relationships between them [9,28].

Table 1 presents examples of measures representing the three types of indicators [9]. When adopting these indicators, researchers need to consider the unique character and complexity of the place and population being studied. For example, in the detailed planning of the overall research and questionnaires used to obtain the measures in a study on the Qinba Mountains region, investigators need to consider the meaning of QOUL from the perspective of local residents, as well as the characteristics involved.

4 Research on QOL in the Qinba Mountains region: Possible directions and research strategies

To better understand the long-term implications of the migration policy and related development, a research scheme for studying QOL and QOUL should be considered. The scope of the research should ideally include the following:

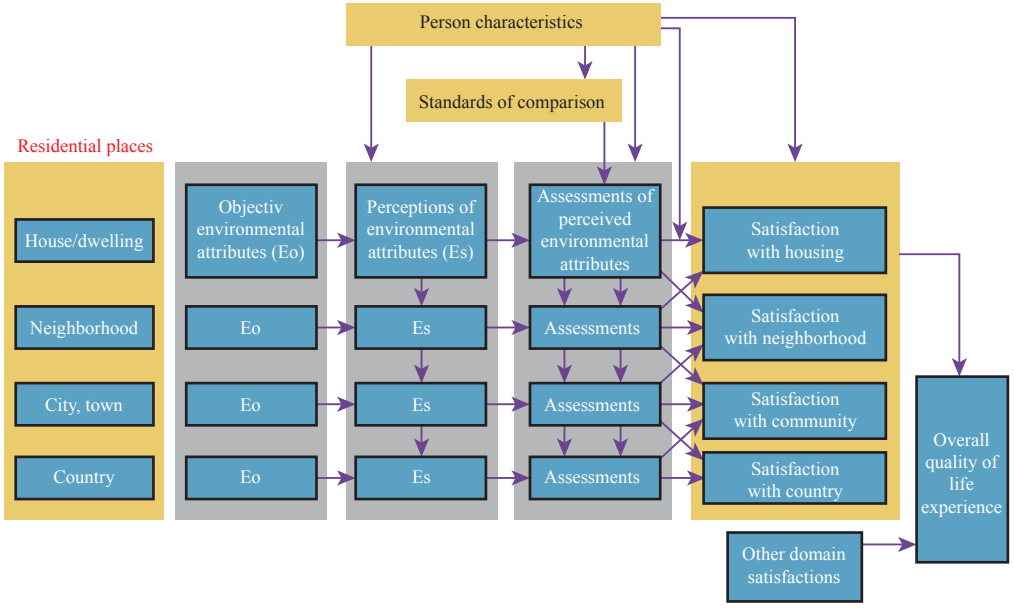

Fig. 1. Relationships between residential satisfactions and QOL.

Table 1. Examples of QOL indicators capable of examining QOUL in cities and neighborhoods.

Objective indicators	Subjective indicators	Behavioral indicators
Employment rates	Housing and neighborhood satisfaction	Using public transport
Enrollment rates	Desire to move	Participation in sports
Per capita income	Sense of security	Amount of walking and bicycling
Crime rates	Perceptions of school quality	Visits to cultural amenities and events
Domestic violence	Perceptions of healthcare services	Visits to parks
Death rates	Feelings about neighbors	Visits to health clinics/doctors
Incidence of chronic diseases	Feelings about trash collection	Amount of neighboring
Air quality	Feelings about congestion and crowding	Participation in voluntary organizations
Residential density	Feelings about government	Participation in local decision-making organizations
Housing vacancy rates	Satisfaction with health	Residential mobility
Number of parks	Satisfaction with family, friends, jobs, etc.	
Number of public transit riders	Life satisfaction, overall happiness (overall well-being)	
Distance to nearest transit stop		
Availability of grocery/food stores		
Vehicle kilometers traveled		

(1) A process for measuring and monitoring the QOL and QOUL of three groups: a) migrants who have moved into the new urban areas; b) rural residents who may or may not move to the new urban developments; and c) established residents of the cities and towns near the new construction.

(2) A longitudinal approach would examine the program's long-term benefits and consequences. This would be accomplished through periodic surveys of representative samples of each group. In addition, the research would follow individuals over time and be used to monitor: a) the extent to which the QOL and the QOUL of mountain area residents who have moved into the new urban developments have changed; b) the expectations of rural residents who have yet to move; and c) the changes in the QOL of urban residents whose lives may be impacted by the new developments being built near them.

Surveys of the three groups present opportunities for a comparative analysis; that is, residents in each of the new developments would be contrasted with residents from the existing nearby urban centers. This would enable researchers and planners to explore the impacts of environmental changes experienced by each group, and identify the relative pros and cons of the new urban developments. There are also possibilities to extend the scope of research by conducting additional comparable surveys of residents in other types of resettlements within the same region (e.g., scattered site housing in rural areas).

Furthermore, the surveys can explore people's future expectations with respect to moving intentions, the built environment, public amenities, community management, and community participation, as well as other domains of their lives. The findings would allow planners and policymakers to better understand issues such as population mobility and community involvement.

Geographic information systems (GIS) technology could be used as part of the research program. This technology can be useful in communicating the spatial distribution of survey findings, as well as more objective environmental information collected as part of the research. GIS tools also have the advantage of integrating socioeconomic characteristics (e.g., income, education, and gender) and subjective measures (e.g., satisfaction, livability, and attractiveness) with a site's spatial information. Using GIS applications, an increasing number of QOUL studies are able to translate disaggregated survey data into collective economic, social, and environmental traits. GIS can also reveal the spatial clustering effect of these attributes. For instance, by combining statistical and spatial modeling techniques, Australian researchers visualized spatial patterns of subjective assessments of QOL and related indicators in South East Queensland [35]. The study discovered three types of "neighborhood attractiveness" ("aesthetic-driven," "amenity-driven," and "social interaction-driven") and mapped their distribution in the region. Similar GIS-enabled modeling also has potential for QOUL research in the Qinba Mountains region as it provides a new method for planners and policymakers to understand how a migration program influences spatial dimensions. The results may provide insights into site selection for new urban settlements for migrants.

5 Conclusion

This paper has discussed the need for a research that assesses the social implications of the major migration projects. This

research assesses the social implications and impacts of the Qinba Mountains Poverty Reduction Project on the QOL of three groups: migrants who have moved to the new urban developments; the current rural population (some of whom may eventually become migrants); and the urban populations in existing cities and towns that are impacted by the new developments. The paper then suggests that such research is important in its contribution to future planning and policymaking in the area, while contributing more generally to understanding QOL among specific sectors of Chinese society.

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