Translocality: A Re-recognition of Locality in Western Geography

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Abstract Translocality, as a re-recognition of locality in western Geography, has gradually become an important theoretical framework for understanding the increasingly interconnected global world. By focusing on sorting out the context and main topics of current western geography on translocality research, it reached the following conclusions. (i) From the perspective of geography, translocality research can be roughly divided into initial development stage, stable development stage and high-speed development stage. (ii) Existing studies on migration, urbanization, and social resilience form the knowledge base for translocality research from the perspective of geography. Migration, mobility, and politics are hot topics of translocality research. (iii) Current issues mainly focus on the characteristics of translocal behavior, the impact of translocal behavior, translocal circular flow and gender research in translocal behavior. Based on this, it proposed the important trends that translocality research in China needs to pay attention to.

Key words Geography, Translocality, Population migration, Mobility

1 Introduction

With the rapid development of globalization, digitalization, and urbanization, the phenomenon of global population mobility and migration is becoming more and more common. The population migration and mobility not only strengthen people's connection, but also promote the flow of elements such as information, knowledge, and materials, thus creating a networked and interconnected translocal space. At present, research from the perspective of translocality has become a hot topic in the academic circles. Many scholars from different research fields have studied the dynamics of mobility, migration, and social spatial interconnection, and proposed concepts such as transnationalism and translocality[1]. In recent years, translocal research findings have been emerging, and the concern of translocality is increasingly growing. In the real world, the importance of cross-system thinking and trans-regional policies in the policy systems of countries around the world is also increasing.

Since the 1980s, geographers have gradually paid attention to the translocal behavior of migrants, mainly focusing on the causes, morphological structure, impact effects, and comprehensive administration of translocal behaviors[2]. However, up until now, few studies have used the knowledge map visualization method to systematically sort out the research context and main issues of translocality from the perspective of geography. In view of such situation, we used the knowledge map analysis method to systematically sort out the research context and topics of translocality in the field of geography. We proposed important trends that translocality research in China needs to pay attention to in the future, in order to promote theoretical and methodological innovation in geography research.

2 Research methods and data sources

2. 1 Research methods CiteSpace, as a popular scientific knowledge map analysis tool, can well reveal the research hotspots, knowledge base and development trend of a specific knowledge field. Its basic principle is to analyze the similarity and measurement of information knowledge units (scientific literature, scientific research institutions, keywords, *etc.*)[3]. At present, CiteSpace has been widely applied in many discipline fields[4-6]. The CiteSpace software version used in this study is 5. 8R3 (64-bit) updated on September 21, 2021.

2. 2 Data sources Web of science (WOS) is a large-scale comprehensive, multidisciplinary, and core journal citation index database developed based on the Web. It has included more than 10 000 high-quality journals. Taking " subject = (translocal*)" as the search condition, the research field is limited to " Geography". The search period is 1998 − 2021, and the literature type is Article and Review. The literature information includes authors, titles, source publications, abstracts, and cited references. Through literature sorting and data standardization, 305 independent papers belonging to the field of geography were finally obtained. The data was last updated on October 31, 2021.

3 Overview of literature

3. 1 Time characteristic analysis The number of papers can reflect the activity of the research field. According to the changing rules of the number of papers about translocality research from 1998 to 2021 (Fig. 1), the research process of translocality can be divided into three stages. The first stage is the initial development

period (1998 – 2010), in which the number of papers about translocality is generally small, and translocality research is in the stage of exploration and development. The second stage is the stable development period (2011 – 2016), in which the number of papers shows a steady growth but the growth rate is slow. The third stage is the high-speed development period (2017 – 2021), in which the number of papers increases rapidly and maintains a rapid upward trend, and translocality research enters a stage of rapid development.

Through a further analysis of keywords in different development stages of translocality research, it is found that:

In the first stage (1998 – 2010), translocality research was in its infancy. The keywords mainly included pace, migration, geography, mobility, network, and globalization. Research at this stage focused on the underlying concepts and spatial characteristics of translocal behavior.

In the second stage (2011 – 2016), the perspective of translocality research gradually extended and diversification began to appear. The keywords mainly included climate change, remittance, gender, etc. Translocality research in this stage changed from basic research in the first stage to research on translocal behavior of specific perspectives, specific environments, or specific groups. In addition, the translocality research in this stage began to have obvious connections and intersections with other disciplines (Economics, Sociology, Ethics, Anthropology, etc.) outside the perspective of geography.

In the third stage (2017 – 2021), translocality research became gradually systematic and comprehensive. The research topics became more specific and had more realistic guiding significance than before. After a period of bottleneck period, many more new keywords appeared, such as adaptation, women and so on. Some

scholars started to analyze remittances among family members caused by translocal behaviors in the context of social relations, and the impact of migration and remittances on the resilience of families in the place of origin.

On the whole, keywords with the highest frequency in the field of translocality research included migration, geography, mobility, network, etc. Most of the words appeared earlier, and the research was more continuous, indicating that the translocality research in this stage still focused on translocality itself. However, with the passage of time and the deepening of research, translocality research with multi-dimensional and multi-disciplinary integration gradually emerged. Adaptation, women and other related research became new hotspots, indicating that translocality research was shifting from "what" and "why" to "how". In the process of translocality research and development, the integration of different disciplines, the intensification of population mobility, the development of information technology, and major global political and economic events (such as the economic crisis, the COVID-19 epidemic, etc.) have all produced a large boosting effect.

3.2　Literature citation analysis　Cited literature is the knowledge base of research[3]. Using CiteSpace to visualize the citation information of translocality literature can understand the knowledge base of translocality research. The clustering information of the co-cited papers is shown in Table 1. Size represents the number of papers included in the cluster. Silhouette is an indicator reflecting the homogeneity of the members within the cluster. The larger the value, the higher the homogeneity and the better the clustering effect. In this study, the two largest clusters were #0 social resilience consisting of 54 papers and #1 transient urban space consisting of 51 papers, with Silhouette greater than 0.9, showing better clustering effect.

Table1　Clustering information of Co-cited papers

Cluster	Size	Silhouette	Year	Clustering label (LSL)	Clustering label (LLR)	Clustering label (MI)
0	54	0.986	2016	social resilience	social resilience	migration-urbanization nexus
1	51	0.940	2013	transient urban space	dhaka bangladesh	scale matter
3	32	0.975	2011	land occupation	land occupation	global common
4	24	1.000	2008	transnational networked space	transnational networked space	social capital
5	23	0.996	2014	translocality	renegotiation	translocal Cambodia

The labels of #0 social resilience clustering according to the LSL, LLR and MI algorithms were separately social resilience, social resilience, and migration-urbanization nexus (relationship between migration and urbanization). This cluster research focused on the issue of social resilience across places, especially between urban and rural areas. For example, Greiner et al.[7] sorted out the relevant literature on the urban-rural migration of small farmers in Kenya and its impact, and they found that there were significant connections between migration, agricultural change, and the environment, which were influenced to varying degrees by remittance flows, labor loss, socioeconomic stratification, gender dynamics, and cultural factors.

The labels of #1 transient urban space clustering according to the LSL, LLR and MI algorithms were separately transient urban

space, dhaka Bangladesh, and scale matter. This cluster focused on cities, involving urban governance issues brought about by translocal migration, and the research area was represented by Dhaka (the capital of Bangladesh) and its surrounding areas. For example, taking Dhaka and the Pearl River Delta (PRD) as case areas, Bork-Hüffer et al.[8] studied different modes of agency and spatial interaction, and concluded that the practice of migration facilitated the emergence of a specific type of space called "transient urban space".

3.3　Keywords analysis　Keywords are the condensation and refinement of the core content of papers. If a keyword appears repeatedly in a research field, it means that the topic represented by this keyword is a research hotspot in this field[3]. Using CiteSpace software, the related settings were as follows: Node Types: Key

words; Time slicing: 1 year; Select: Top 50, and other default settings were used to generate a keyword co-occurrence map as shown in Fig. 3.
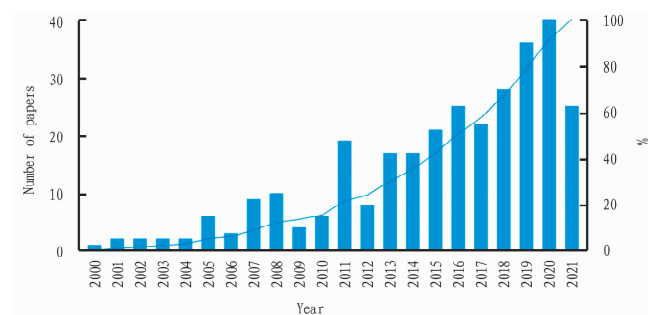

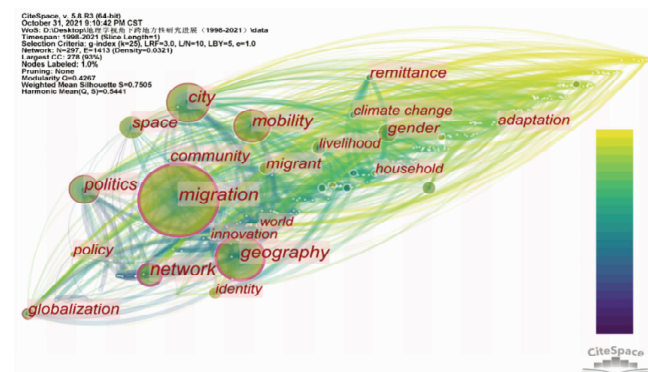Fig. 1　Number of papers on translocal research from 1998 to 2021

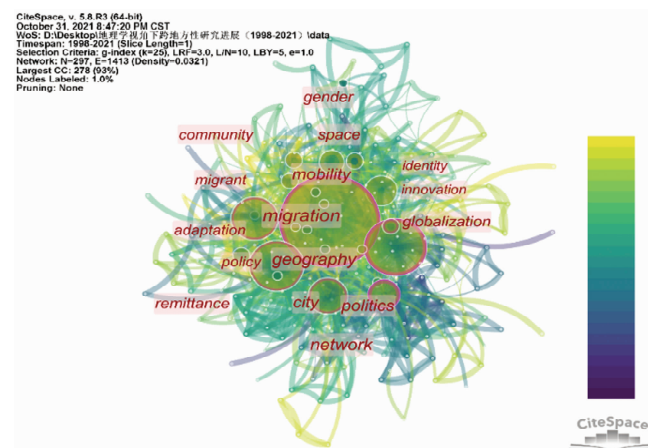Fig. 2　Keywords co-occurrence time zone map

Fig. 3　Keywords co-occurrence map

Based on keyword frequency analysis, we identified high-frequency keywords that appeared more than 30 times, including migration (62 times), geography (41 times), city (35 times), mobility (33 times), and politics (31 times), and the betweenness centrality was significantly greater than 0.1.

4　Main topics of translocality research

4.1　Characteristics of translocal behavior

4.1.1　Classification of translocal behavior types. On the spatial scale, translocal behavior can be divided into domestic migration and international migration. On the time scale, it can be divided into short-term migration and long-term migration. In terms of the direction of population transfer, it can be divided into rural-urban migration, urban-rural migration, urban-urban migration, and rural-rural migration. Among these, rural to urban migration takes up a larger portion. By focusing on the mobility, space and livelihood trajectories of livelihood migration, emphasizing translocal relations and the loose nature of place studies, Etzold believed that livelihood trajectories can be viewed as a methodological tool for mapping social mobility in terms of the specific ways in which people move through social fields over time[9]. Peth performed a multi-site research in Bangladesh and, unlike mainstream research, stated that rural areas play a more important role as destinations than is often imagined; jobs and employment opportunities are targeted by migrants, not purely urban or rural areas; social networks and translocal linkages shaped diverse migration patterns in Bangladesh[10]. Winkels carried out research on rural-to-rural migration within Vietnam, stated that migration from relatively poor to relatively affluent rural areas contributed to the international marketization of Vietnamese agriculture and aquaculture, which has an obvious positive effect on the national and regional economies, but it does not necessarily improve the livelihoods of immigrant groups and their families; therefore, Winkels investigated the role of social networks in the migration process[11]. Based on the data of migrant and non-immigrant households in the Kwait region in northwestern Ethiopia, Mersha studied the patterns of migration and the factors that influence migrant behavior and divided migrants into three types: temporary paid labor, full-time paid labor and crop migrants according to their livelihood activities[12]. For domestic migrants in Bangladesh, Sterly *et al.* explored the role of mobile communication media in translocal behavior, revealed how the use of mobile phones by rural-to-urban labor migration changed their social behavior across places, and studied the main causes of these changes and their impact on translocal livelihoods[13]. Benz held that intensified processes of mobility and migration create translocal livelihoods, and explored the potential of translocal livelihoods for regional development[14].

4.1.2　Motives and causes of translocal behavior. Migration motives in translocal behavior can be roughly divided into forced migration and voluntary migration, among which the motives of forced migration include the deterioration of the ecological environment, political and religious refugees, and so on, while motives of voluntary immigration include the pursuit of job opportunities, the pursuit of knowledge, and *etc.* Among the motives of forced migration, the deterioration of the ecological environment is the mainstream, and a small number of studies involve religious and political refugees. Porst explored the multiple risks hidden in the environment and climate change and their negative impact on rural life from the perspective of social practice[15]. Taking four villages in Senegal as outflows and two migrant destinations in Italy and Spain as inflows, Schöfberger analyzed the connection between household vulnerability, environmental degradation risk, and migration motives, and proposed that migration is a strategy to adapt to environmental changes[16]. Boas *et al.* focused on climate change as the cause of population migration, and discussed the importance of climate change in population migration decision-making, including

the multiple forms, directions and multiplicity of human movements in the context of climate change, and the transformative nature of mobility and its impact on places of origin, transit corridors and destinations[17]. Fingerle et al. turned their research perspective to religious refugees, providing a reference for the translocal behavior research of political and religious refugees[18].

Among the motives of voluntary migration, the pursuit of job opportunities occupies the mainstream, and some of them involve knowledge migration. For example, Peth performed a multi-point research with Bangladesh as the research area and found that the role of the destination is more important than usually imagined, and that jobs and employment opportunities are the goals of migrants[10]. Peng Wenjia et al. modified the telecoupled sustainable livelihood framework, summarized the dynamic livelihood strategy in the context of urban-rural transformation in China, and pointed out that livelihood diversification and migrant work are important livelihood strategies used by rural households to reduce vulnerability and dependence on natural resources[19]. Knowledge migrants refer to the migrants who have received higher education, mastered the corresponding knowledge and skills, and flowed between different regions to improve and utilize their human capital, mainly including degree-seeking students and skilled migrants with at least a bachelor's degree[20]. In the context of the great development of talent strategies in countries all over the world, knowledge migration is an important factor affecting regional innovation and development during the transition period. On the transnational scale, knowledge migrants can simultaneously obtain the market advantages of the receiving country and the technological advantages of the sending country. This type of migration is very important for local industrial upgrading and social and economic development[5].

4.2 Impacts of translocal behavior

4.2.1 Impacts of translocal behavior on the place of migration.
The impacts of translocal behavior on the place of migration include economic impact, social impact and ecological environment impact. The economic impact mainly includes changing the urbanization process of the destination, providing abundant and cheap labor for the economic development of the destination, and promoting the economic globalization of the destination. With reference to case studies of urban growth in three urban areas of Nepal, Brøgger explored the migration economy taking remittance repatriation as an example, and its socioeconomic impact on urban growth, proposed the migration-urbanization connection method, which provides a reference for the study of the relationship between migration and urban growth[21]. Aslam et al. linked the theory of sustainable development with the theory of globalization, and explored the impact of RMI migration on the global economic crisis from the perspective of globalization[22]. Social and cultural impacts mainly include the exchange and integration of culture and population in the place of migration, changing social relations in the place of migration, increasing the difficulty and risk of governance in the place of migration, etc., the corresponding issues include risk resistance, cultural identity, identity construction, and governance for translocal populations, including household registration management policies, land system reforms, community

management models, and changes in institutional settings. For example, Cory et al explored the intersection of international migration and urban sustainable development from the perspective of cultural studies, and put forward recommendations for the four aspects of mobility culture, translocal space, translocal subjectivity and translocal cohesion[23]. Kallis et al. conducted an intergenerational study of three generations of Greek Cypriot migrants in the UK, explored intergenerational changes in the importance of places of worship for migrant identity, and found that migrant identity is often strongly associated with local ties within a country and even more so with the own country itself, but this phenomenon will change with time and intergenerational transmission[24]. Chen Fangfang et al. developed an institution-based "livelihood resilience framework", which specifically emphasizes the role of institutions in shaping community resilience; they used this framework to observe two communities in rural China, and explored the impacts of individual agency and collective agency on livelihood resilience[25]. The ecological environment impact mainly includes the impact of translocal behavior on the agriculture, land, soil and other aspects of the moving-out area. For example, using the telecoupling method, Eakin et al. analyzed the impact of translocal behavior on the land system[26]. Greiner et al. reviewed the evidence for a clear relationship between migration and the environment in rural areas[7], especially in terms of agricultural change, land use patterns and soil conservation, and this relationship is moderated to varying degrees by remittances, labor loss, socioeconomic stratification, gender dynamics, and cultural variables[26].

4.2.2 Impacts of translocal behavior on moving-out area.
The impacts of translocal behavior on moving-out area include economic impact and social impact. Economic impacts include remittances brought about by translocal behaviors, cross-regional networks, and urban-rural integration. For example, Greiner et al. emphasized the role of migration and urban-rural networks in strengthening socioeconomic stratification, and analyzed the relationship between population flow to cities and rural socioeconomic stratification[7]. Ober analyzed the role of remittances in disaster resistance, and believed that remittances can significantly improve the livelihood resilience of migrant families, and at the same time, remittances can also exacerbate inequality during disasters and extreme events, with the poorest and most excluded even worse off after disasters[27], which provides a new perspective for the study of translocal remittances. By focusing on the impacts of translocal behavior on urban-rural relations, Steinbrink explored the causes for the "urban-rural differentiation tendency" and stressed that the understanding of the translocality of the family structure is a necessary prerequisite for understanding the urban-rural structure[28]. Social impacts include impacts on the stability and resilience of translocal families, access to outside information and ideas, etc. Singh found the impacts of migration on family vulnerability and adaptive capacity by tracking family trajectories[29]. Winkels held that the concentration of financial and human resources at the family-of-origin level enables migrants to take greater economic risks at destination, which has the potential to increase the livelihood vulnerability of migrants and left-behind family members, with family vulnerability and social exclusion reinforcing deeper struc-

tures that lead to exploitation and chronic poverty[11]. Taking temporary migrant dispatch families in the Quarit District of northwestern Ethiopia, Mersha studied temporary rural migration, migrant vulnerability at destination, and its impact on migrant families, and concluded that the vulnerability of migrants at destination can adversely affect migrant families[12].

4.3   Translocal circulation and return   Translocal circular migration refers to the circular flow of migrants between moving-out area and moving-in area. Translocal return refers to the phenomenon that migrants return from the moving-in area to the moving-out area to work and live. Circular migration, which is usually carried out through temporary flow, enables individuals or families to carry out multiple income-generating activities in multiple places in a short period of time and to improve the livelihood diversity of migrants[16]. Most population movements in such cycles are cyclical, but diverse in time[30]. Migrants can flexibly adapt to changes in origin and destination resources. Some scholars[31] found that the return of migrants may lead to a decline in wages, the transfer of social remittances faces many socially structural barriers, and translocal contexts are important for understanding the impacts of migration on social resilience.

4.4   Research of gender in translocal behavior   With the deepening of translocality research, the topic of gender has attracted attention of scholars. In recent years, there have been more and more studies on this topic, and the combing of research on this topic is conducive to a more comprehensive understanding of translocality research. There is a correlation between family gender category, vulnerability and migration[32]. Some scholars have found that families with only adult women are less economically vulnerable, and families with only adult men are often unable to move[32]. In terms of responsibilities, moral obligations, filial piety, and conjugal obligations, women are at a disadvantage in terms of social function and identity due to inequality[15]. Taking international labor migration in northwestern Pakistan as an example, Siegmann explored the impacts of male out-migration on women left behind in their families, and also studied the social outcomes when increased vulnerability at the level of individual women is offset by increased vulnerability at the household level[33]. For another example, Vibert explained the phenomenon of migration with the relationship between men and women as the core[34], and sorted out the literature from the following four aspects: (i) the fundamental role of the state in encouraging different types of migration between men and women and in controlling unequal migration rights between men and women; (ii) the nature of gender relations within the family and within the community mediated by the state, and how this affects migration and return; (iii) how foreign perceptions of fairer gender relations influences migration; (iv) specifically explaining the migration of domestic helpers.

5   Conclusions and prospects

5.1   Main conclusions   Based on 305 Geography literature related to translocality research in WOS, and using CiteSpace as the main analysis tool, we sorted out and analyzed the advances in translocality research and reached the following conclusions.

(i) According to time characteristics, from the perspective of Geography, translocality research can be roughly divided into initial development stage, stable development period and high-speed development stage. In the initial development stage, the research mainly focuses on the basic concepts and spatial characteristics of translocal behavior. In the stable development stage, translocality research turns to the perspective of specific environments and specific groups. In the high-speed development stage, the field of translocality research is gradually systematic and comprehensive, and the research has more practical guiding significance.

(ii) Existing studies on migration, urbanization, and social resilience form the knowledge base for translocality research from the perspective of geography. Migration, mobility, and politics are hot topics of translocality research.

(iii) Current issues mainly focus on the characteristics of translocal behavior, the impact of translocal behavior, translocal circular flow and gender research in translocal behavior.

5.2   Research prospects   The translocality research has formed a relatively complete knowledge system and research methods. The research perspective has shifted from the geography alone to a geography-based perspective and interdisciplinary research. Research methods involve a combination of qualitative research, quantitative research and various data collection methods such as follow-up surveys. In view of these, we made the following prospects for the research in this field.

(i) Resilience research from a translocal perspective. Translocal behavior will have impacts on resilience in many aspects, including the direct impacts of translocal behavior on the resilience of migrants' livelihoods, as well as impacts on family resilience, community resilience, and regional resilience. In recent years, the attention of resilience-related research from a translocal perspective has rapidly increased around the world, and most of them focus on agriculture, climate change, and food safety. Besides, the research on the promotion of livelihood issues to translocal behavior, the impacts of translocal behavior on livelihood resilience, and the impacts of translocal behavior on other resilience is gradually being carried out. However, domestic attention to this research direction is basically blank. Therefore, it is urgent for domestic geography researchers to conduct research on resilience in translocal behavior based on domestic reality.

(ii) Translocal behavior research in the post-COVID-19 era. From the background of the times, the COVID-19 epidemic has swept the world, and the high spread of COVID-19 has hedged with translocal migration behaviors. At the same time, the epidemic exacerbated livelihood difficulties and development difficulties, which had a greater impact on economic development. In the post-COVID-19 era, combined with new globalization issues, it is necessary to study how translocal behavior will be impacted and how to respond to this impact under the background of normalization of global epidemic prevention. However, there are few studies on this perspective, and only a few scholars have explored this issue. Therefore, researching translocal behavior in the context of the COVID-19 pandemic, analyzing the impacts of the COVID-19 epidemic on translocal livelihood systems and related mitigation measures, will be conducive to providing insights into translocal

policy proposals in the post-COVID-19 era.

(ⅲ) Translocality research in China. At present, the translocality research in China still lags behind Germany, the United States, Britain and other countries. As the fastest growing country in the world in the past 40 years, China has a floating population of more than 200 million, which constitutes the largest floating population group in the world. At the same time, with the continuous innovation and diversification of economic development patterns, the forms and connotations of translocal behaviors will become increasingly rich and novel. Therefore, China's translocal behavior has great research value. In view of this, we proposed two innovative research perspectives with Chinese characteristics. First of all, intergenerational parenting is a unique and deep-rooted family cultural tradition in China. In the context of more and more common translocal behaviors, translocal parenting is becoming an increasing phenomenon in recent years. Thus, from this research perspective, it can be combined with research hotspots such as the decline in fertility rate and progressively delayed retirement that Chinese society is currently facing, to provide innovative content with Chinese characteristics for translocality research. Secondly, China's college entrance examination system and the reality of uneven economic development have caused regional inequalities in educational resources and opportunities for further education. In the context of increasing attention to the phenomenon of social involution, the resulting translocal behavior has high research value. How the increasing number of educational immigrants and families will influence the moving-in area and moving-out area, and how to deal with and deal with this translocal phenomenon may become the frontier of future research. In summary, domestic scholars should combine the experience of foreign research, take searving the reality of social and economic development as the orientation, and combine the reality of China's economy, society and culture to establish a research system of translocality from the perspective of China's geography.

References

[1] GREINER C, SAKDAPOLRAK P. Translocality: Concepts, applications and emerging research perspectives[J]. Geography Compass, 2013, 7(5): 373 –384.

[2] DJURFELDT AA. Translocal livelihoods research and the household in the Global South: A gendered perspective[J]. Journal of Rural Studies, 2021, 86: 16 –23.

[3] LI J, CHEN CM. CiteSpace: Text Mining and Visualization in Scientific Literature[M]. Beijing: Capital University of Economics & Business Press, 2016. (in Chinese).

[4] SU F, YING RR, HUANG JY, et al. Visualization analysis of livelihood Security Research[J]. Scientia Geographica Sinica, 2018, 38(12): 2058 –2065. (in Chinese).

[5] MA L, XIE YY, YUAN ZJ. A review of intellectual migration research under the background of globalization and mobility: Topics and prospects [J]. Scientia Geographica Sinica, 2021, 41(7): 1129 –1138. (in Chinese).

[6] XIAO L, WEI CY. Knowledge graph analysis of Chinese rural settlement morphology research based on CSSCI[J]. Economic Geography, 2021, 41(4): 148 –157. (in Chinese).

[7] GREINER C, SAKDAPOLRAK P. Rural-urban migration, agrarian change, and the environment in Kenya: A critical review of the literature [J]. Population Environment, 2013, 34(4): 524 –553.

[8] BORK HÜFFER T, ETZOLD B, GRANSOW B, et al. Agency and the making of transient urban spaces: Examples of migrants in the city in the Pearl River Delta, China, and Dhaka, Bangladesh[J]. Population, Space and Place, 2016, 22(2): 128 –145.

[9] ETZOLD B. Mobility, space and livelihood trajectories: New perspectives on migration, translocality and place-making for livelihood studies in book Livelihoods and Development: New Perspectives[M]. Leiden: Brill, 2017: 44 –68.

[10] PETH SA. Migration paths and workspaces in Bangladesh-translocal securing of life in a changing (surrounding) world[D]. Bonn: University of Bonn, 2012.

[11] WINKELS A. Migration, social networks and risk: The case of rural-to-rural migration in Vietnam[J]. Journal of Vietnamese Studies, 2012, 7(4): 92 –121.

[12] MERSHA LA. Temporary rural-rural migration, vulnerability of migrants at the destination and its outcomes on migrant families: Evidence from temporary migrant sending families in Quarit district, Northwestern Ethiopia[D]. Addis Abab: Addis Ababa University, 2018.

[13] STERLY H, SAKDAPOLRAK P. Multiple dimensions of mediatised translocal social practices:A case study of domestic migrants in Bangladesh[J]. Annals of the Austrian Geographical Society, 2020, 162: 369 –395.

[14] BENZ A. Mobility, multilocality and translocal development: Changing livelihoods in the Karakoram[J]. Geographic Helvetica, 2014, 69: 259 –270.

[15] PORST L, SAKDAPOLRAK P. How scale matters in translocality: Uses and potentials of scale in translocal research[J]. Erdkunde, 2017, 71(2): 111 –126.

[16] SCHÖFBERGER I. Environmental change and translocal vulnerability in Senegal[J]. Migration, Environment and Climate Change: Policy Brief Series. 2018, 4(3): 1 –8.

[17] BOAS I, CAROL FARBOTKO, HELEN ADAMS, et al. Climate migration myths[J]. Nature Climate Change, 2019, 9: 898 –903.

[18] FINGERLE M, WINK R. Forced migration and resilience conceptual issues and empirical results[J]. Springer Nature, 2020.

[19] PENG WJ, ROBINSON BE, ZHENG H, et al. Telecoupled sustainable livelihoods in an era of rural-urban dynamics: The case of China[J]. Sustainability, 2019, 11(9): 2716.

[20] WINKELS A. Migratory livelihoods in Vietnam: Vulnerability and the role of migrant networks[D]. Norwich: University of East Anglia, 2004.

[21] BROGGER DR, AGERGAARD J. The migration-urbanization nexus in Nepal's exceptional urban transformation[J]. Population Space and Place, 2019, 25(8): e2264. 1 –e2264. 13.

[22] SHEIKH ATIF BA. Implications of return migration intentions of Pakistani immigrants for urban development in Pakistan[D]. Dortmund: TU Dortmund University, 2015.

[23] CORY E, REIMER MH, MÖLLER P. Translocality and translocal subjectivities: A research overview across the fields of migration-, culture-, and urban studies[R]. Mistra: Mistra Urban Futures Research Centre, 2020.

[24] KALLIS G, YARWOOD R, TYRRELL N. Translocal space across migrant generations: The case of a Greek Orthodox Church in the United Kingdom[J]. Population Space Place, 2019, 25: e2206.

[25] CHEN FF, XU HG, LEW AA. Livelihood resilience in tourism communities: The role of human agency[J]. Journal of Sustainable Tourism, 2019, 28(4): 1 –19.

[26] EAKIN H, DEFRIES R, KERR S, et al. Significance of telecoupling for exploration of land-use change[M] Cambridge: The MIT Press A, 2014: 141 –162.

stabilized after 2021. This was due to the strict supervision of chemical enterprises and sewage treatment plants by government departments. Spatial distribution of water pollutants in case of pollution: COD_{Mn} concentration exceeding the standard was the most serious in Shizui; DO concentration not up to standard was the most in Thermal Power Station; exceeding times of NH_3-N, TP and TN was the most in Wulin Ferry. The four sub-stations also had common features: the water quality indicators generally declined and tended to be stable in 2021.

The daily average concentration series of COD_{Mn}, DO, NH_3-N, TP and TN was analyzed by Morlet wavelet, and the interannual variation trend was more consistent with that of db wavelet. The main period of wavelet variance diagram of COD_{Mn}, NH_3-N and TP was 340 d, and the same sub-period was 140 d, and the main period of wavelet variance diagram of DO was 260 d.

There were similar resonance periods of about 1 – 2 and 5 – 7 months for COD_{Cr} in Thermal Power Plant, Shizui and Wulin Ferry, and BOD_5 and COD_{Mn} had the main resonance period of 1 – 4 months (2014 – 2017). There was similar resonance period of about 1 – 3 months for DO, and NH_3-N had the main resonance period of 1 – 5 months. The three state-controlled monitoring stations had multi-scale significant periodic fluctuations, and the

short-term change was the main one.

References

[1] HUANG SX. Air pollution and control: Past, present and future[J]. Chinese Science Bulletin, 2018, 63(10): 895 – 919. (in Chinese).

[2] DANIEL AV. A wavelet analysis of multi-day extreme ozone and its precursors in Mexico City during 2015 – 2016[J]. Atmospheric Environment, 2018, 188: 112 – 119.

[3] ZHOU JN. Temporal and spatial variation characteristics and cause analysis of water quality in the hinterland of Lixia River[D]. Yangzhou: Yangzhou University, 2021. (in Chinese).

[4] ZHAO GZ, WANG SL, LI ZP, et al. Research on water quality change and prediction based on wavelet analysis: A case study of Guohe River[J]. Pearl River, 2022, 43(2): 79 – 87. (in Chinese).

[5] DING P. Study on runoff variation characteristics of Manas River Basin based on wavelet analysis[J]. Hydro Science and Cold Zone Engineering, 2022, 5(4): 59 – 62. (in Chinese).

[6] XU YX, ZHAO Y, MO SP, et al. Analysis of sequence characteristics of atmospheric pollutant concentration based on wavelet[J]. Environmental Science and Management, 2020, 45(7): 77 – 82. (in Chinese).

[7] XU CJ, WEI JL, QIAN Y. Time series analysis of NO_2 concentration in Hefei City based on wavelet analysis[J]. Environmental Science Survey, 2017, 36(6): 52 – 56. (in Chinese).

[27] OBER K, SAKDAPOLRAK P. How do social practices shape policy? Analysing the field of 'migration as adaptation' with Bourdieu's 'Theory of Practice'[J]. The Geographical Journal, 2017: 183.

[28] STEINBRINK M. Urbanization, poverty and translocality: Insights from South Africa[J]. African Population Studies, 2009, 23: 219 – 252.

[29] SINGH C, BASU R. Moving in and out of vulnerability: Interrogating migration as an adaptation strategy along a rural-urban continuum in India[J]. The Geographical Journal, 2020, 186: 87 – 102.

[30] ROMANKIEWICZ C. West African migration in the age of climate change: Translocal perspectives on mobility from Mali and Senegal[D].

Bayreuth: University of Bayreuth, 2019.

[31] PETH SA. Migration and translocal Resilience: A multi-sited analysis in/between Thailand, Singapore and Germany[D]. Bonn: University of Bonn, 2020.

[32] ATIGLO DY. Gender, vulnerability to environmental change and migration in the Volta Delta, Ghana[D]. Accra: University of Ghana, 2017.

[33] SIEGMANN KA. Strengthening whom? The role of international migration for women and men in Northwest Pakistan[J]. Progress in Development Studies, 2010, 10(4): 345 – 361.

[34] VIBERT E. Translocal lives: Gender and rural mobilities in South Africa, 1970 – 2020[J]. Politikon, 2020, 47(4): 460 – 478.

improve the socialized collection mechanism of floating population information, further strengthen the management and service, comprehensively integrate the forces of all social parties, and effectively solve the current situation of weak management strength.

References

[1] CHEN C. Research on the integrated development of rural and urban areas in Sichuan Province[J]. Contemporary County Economy, 2022(10): 44 – 47. (in Chinese).

[2] CHEN L, JIANG H, TIAN SQ. Urban-rural integrated development at county level and rural land institution reform: Theoretical logic and implementation path[J]. China Land Science, 2022(9): 10 – 18. (in Chinese).

[3] SUN Y, XIANG SL. Study on problems and paths of urban-rural integration development at the county area level[J]. Journal of Yunnan Agricultural University (Social Science), 2022(3): 64 – 70. (in Chinese).

[4] WANG QQ, SUN PJ. Research on the measurement of urban and rural integration development level in Lanzhou[J]. Shanghai Land & Resources, 2022(4): 23 – 28. (in Chinese).