

RURAL DEVELOPMENT IN CHINA AND NAMIBIA: COMPARISON OF PROBLEMS AND POLICY RESPONSES

Uchendu Eugene CHIGBU (Namibia), Ruishan CHEN (China), Laina ALEXANDER (Namibia) and Xiaona GUO (China)

Keywords: China; Namibia; rural; rurality; rural development; rural revitalization; urban-rural land linkages

SUMMARY

Rural and urban (including the peri-urban) are critical spatial units within any country. They occupy unique policy spaces in national developments. Their residents also constitute an essential human resource for development. However, unequal balance in spatial development, to the advantage of the urban, has always been blamed on rural-to-urban migration in many cases. This paper, recognizing the importance of the urban and rural areas within the frame of national development, strives to provide an understanding of what drives the inferiorisation of the rural within the structure of national spatial development. Its focus is on cross-country rural development cases in China and Namibia. This paper identifies and compares the rural challenges and policy responses from China and Namibia to potentially draw lessons to enhance their rural development interventions. The paper is divided into three main parts. The first part of the paper relates to rural development issues in China, focusing on rural transitions, their challenges, and China's rural revitalization policy. The second part focuses on Namibia's rural development, emphasizing challenges and policy interventions. Finally, it presents cross-country lessons for China and Namibia based on the discourse explored. Two of the key outputs of the paper are that it shows a framework for understanding the causality path for rural transformation in China, and a *rural features comparison matrix* for China and Namibia.

Rural Development in China and Namibia: Comparison of Problems and Policy Responses (12641)
Uchendu Eugene Chigbu (Namibia), Chen Ruishan (China, PR), Laina Alexander (Namibia) and Guo Xiaona (China, PR)

FIG Working Week 2024

Your World, Our World: Resilient Environment and Sustainable Resource Management for all
Accra, Ghana, 19–24 May 2024

RURAL DEVELOPMENT IN CHINA AND NAMIBIA: COMPARISON OF PROBLEMS AND POLICY RESPONSES

Uchendu Eugene CHIGBU (Namibia), Ruishan CHEN (China), Laina ALEXANDER (Namibia) and Xiaona GUO (China)

1. INTRODUCTION

Politically, Namibia and China have had a long-standing relationship. China is one of the countries that supported Namibia's liberation struggle. It was also one of the first countries to establish diplomatic relations with Namibia after its independence. China established diplomatic relations with Namibia just one day after it got its independence. Both countries are undergoing a rapid transformation in rural development at different scales. They have also cooperated in rural development measures in the past and continue to collaborate in the present. Odada and Omu (2008: 4) noted that the China-Namibia cooperation.

“Has allowed China to support the Namibian government's in rural development “by organizing visits to China for Namibia's rural entrepreneurs as a way of upgrading their skills through interaction with their Chinese counterparts, and by providing materials, tools and equipment to rural communities through two on-going national projects, namely: the food/cash for work programme; and the empowerment of the San community for household food security programme.”

On its part, Namibia makes substantial exports to China. China's commodity exports from Namibia include. Slag and ash, dish and fish products, live animals, earth, and minerals.

In this paper, we identify the rural challenges and policy responses from China and Namibia to draw lessons for potential enhanced rural development interventions. Going forward, the paper is divided into four main sections. The next section (i.e., section 2) of the paper relates to rural development issues in China focusing on rural transitions with a focus on their challenges and its rural revitalization policy. The section 3 focuses on rural development in Namibia, also putting focus on challenges and policy interventions. Section 4 presents the comparisons and lessons drawn from the study. The paper ends with a conclusion in section 5.

2. RURAL TRANSITION IN CHINA: A MATTER OF POPULATION AND LAND USE CHANGES

The rural population increased in China from 790.14 million in 1978 to 859.47 million in 1995, and then decreased to 491.04 million in 2022, and the percentage in the total population decreased from 82.08% in 1978 to 34.78% in 2022. This rural population change has caused a systematic regime shift regarding land use change and rural lifestyle change (Figure 1). Especially rural depopulation has led to cropland abandonment in many rural areas, which affects food production. The rural environment has changed significantly, as less people stay in the countryside. The implication is that the Chinese government has to pay attention to the

Rural Development in China and Namibia: Comparison of Problems and Policy Responses (12641)

Uchendu Eugene Chigbu (Namibia), Chen Ruishan (China, PR), Laina Alexander (Namibia) and Guo Xiaona (China, PR)

FIG Working Week 2024

Your World, Our World: Resilient Environment and Sustainable Resource Management for all

Accra, Ghana, 19–24 May 2024

changes in rural areas of China and have initiated many policies to improve the rural conditions. The main issues in China’s rural development is centered around the countries rural transition and transformation which has affected various aspects of rural life (Figure 1).

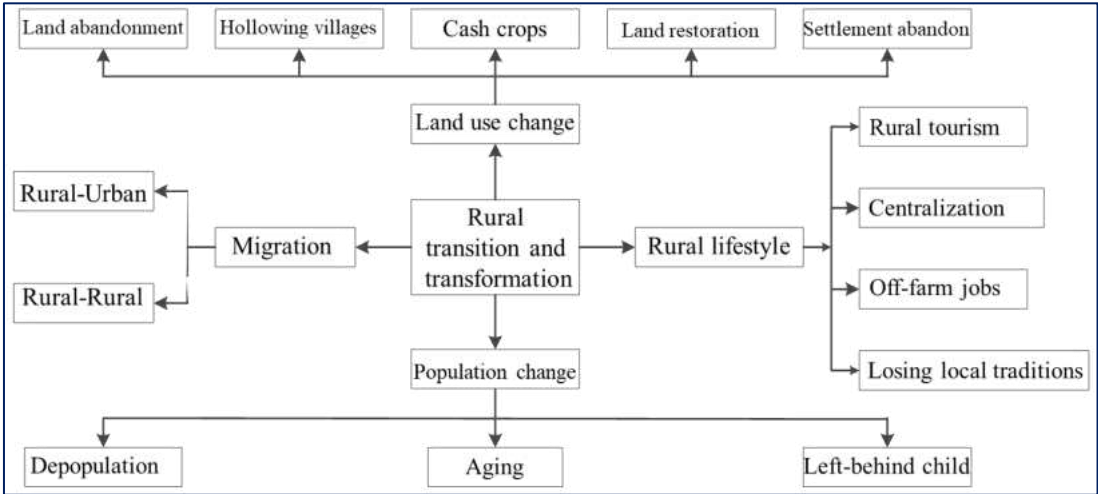


Figure 1: Rural transformation and changes of population, land use and rural lifestyle

Figure 1 can serve as a framework for understanding the causality path for rural transformation in China. It indicates that China’s rural challenges are a consequence of the challenges in the diagram, which shows that it has a four-way impact through population change, rural lifestyle, migration and land use change. Every other challenge stem from these four paths. These are explained in the following sub-sections.

2.1. RURAL POPULATION CHANGE

With the acceleration of China's urbanization process and the improvement of economic development level, the total population and population structure of rural areas in China are undergoing significant changes. Since 1978, there has been a massive exodus of surplus rural labor to the cities because of the deregulation of mobility and the emergence of new economic opportunities (Tong and Lo, 2021). While this large-scale rural labor mobility has contributed to the rapid development of urbanization and industrialization, it has also caused problems such as a decline in the rural population, significant aging of the population, and an increase in the number of people left behind.

According to the statistics of the seventh national census, the total rural population in China has continued to decrease, from 834 million in 1990 to 510 million in 2020, a decrease of about 38.85 (National Bureau of Statistics of China, 2021). Among them, the proportion of the population aged 60 and over in rural areas in China in 2020 accounted for 23.81% of the total rural population, respectively, which was 7.99 percentage points higher than that in urban areas, showing a significant feature of population aging and differences between urban and rural areas (National Bureau of Statistics of China, 2021; Wang et al., 2021). The reasons for population reduction and aging are complex and multifaceted. factors such as the decline in rural fertility

Rural Development in China and Namibia: Comparison of Problems and Policy Responses (12641)
 Uchendu Eugene Chigbu (Namibia), Chen Ruishan (China, PR), Laina Alexander (Namibia) and Guo Xiaona (China, PR)

rates, changes in family structure, and agricultural modernization and mechanization have also contributed to varying degrees of population aging and rural hollowing out (Xing et al., 2023). A high degree of population aging has put greater pressure on rural areas in terms of labor supply, medical security, and social welfare, and brought huge impacts on China's agricultural production and food security (Xiao, 2020).

In addition, the large-scale movement of rural labor is temporary, circular, and mobile, with only some members of the family or a small number of families being able to participate in the movement (Chang et al., 2011). When migrant workers enter the cities, they are affected by the hukou system, the system of land tenure and citizenship, and other economic and cultural factors, leaving only some of their family members behind in their villages, resulting in a large number of left-behind children, non-elderly married women and older persons in the countryside. Because left-behind children live mainly with their mothers, grandparents or relative (Ye and Pan, 2011). Studies have shown that, from 2000 to 2010, China's rural left-behind population showed a high growth rate, increasing from 54.54 million in 2000 to 135 million in 2010, an increase of 147%, among them, children account for the largest proportion of the left-behind population; in 2010, 61.02 million children were left behind in rural areas, 21.48 million women were left behind, and 36.29 million elderly people were left behind. (Qin and Lv, 2020). By 2021, according to statistics from the Ministry of Education, there will be a total of 11,986,500 left-behind children in rural areas in China, which is a significant decrease in number compared to 2010 (Wang et al., 2023). The large number of people left behind poses a series of challenges in terms of education, health and social integration in rural localities.

2.2. RURAL LAND USE CHANGE

Rural land resources are the material foundation on which farmers rely for survival and livelihood (Benessaiah, 2021). China is both a populous and agricultural country, using 8.35% of the world's arable land to feed 18.82% of the world's population (Jiang et al., 2022). The rational development and utilization of land resources are crucial for improving agricultural production efficiency, ensuring food security, and achieving rural modernization and revitalization strategies (Zhou et al., 2020b). Since the reform and the open-door policy of China, the main development goal in rural areas of China has been economic construction. Land resources have been in a state of high-intensity utilization for a long time, leading to changes in both quantity and quality, which in turn has led to a series of "rural diseases" such as fragmentation of arable land, abandonment of land, and hollowing out of rural villages (Long et al., 2012; Li et al., 2018).

Overall, there are main problems and contradictions in the current rural land use in China. On the one hand, there is a contradiction between macro scarcity and micro idleness in rural land use (Zhang et al., 2019). On the other hand, there is a contradiction between transaction demand and transfer barriers in rural land use (Zhou et al., 2020a). Resolving these contradictions in rural land use requires a series of comprehensive policy methods. On the one hand, it is necessary to establish a scientific and reasonable land use system, allocate rural land resources reasonably, strengthen intensive land management, and ensure a balance between land supply and demand. On the other hand, it is necessary to improve the land property rights system,

establish a standardized land market system, enhance market transparency, simplify land transaction procedures, reduce transaction costs, and promote the orderly circulation of land resources.

2.3. THE RURAL CHALLENGES IN FOCUS

Some notable consequences of the population and land use changes caused by the transition include rural land abandonment, hollowing villages, disaster risks, and culture loss. These explained below.

2.3.1. Rural land abandonment

China has undergone significant socio-economic changes in recent years, marked by the extensive migration of rural laborers to urban regions (Gao et al., 2020). The most noticeable decline in the use of rural land, especially in farmland, stands out as the most significant form of abandonment. The China Family Database's household follow-up survey across 262 counties in China revealed that 13.5% of farmland was abandoned in 2011, and this figure rose to 15% by 2017 (Wang et al., 2022). It's crucial to understand that farmland abandonment in China is a complex, multidimensional issue, encompassing both natural- and anthropogenic-based abandonments. A substantial amount of land, particularly in mountainous regions and impoverished rural areas, has been left uncultivated due to the loss of labor. Farmland size and fragmentation are important factors of farmland abandonment in China (Xu et al., 2021). 1 mu (equal to 666.67 m²) increase in the average plot area leads to a 16.8% reduction in the rate of farmland abandonment (Wang et al., 2022). In addition, the distance between farmland and housing, land quality, and aging, which affect farming costs, benefits, and consequently, profitability, also imposed impacts on rural land abandonment (Zhang et al., 2016). Therefore, the transfer of farmland plays a pivotal role in modulating the food production and the rate of farmland abandonment. Farmland transfer primarily affects land abandonment by adjusting land use rights and improving land management efficiency (Fei et al., 2021). During the transfer process, land can be transferred from less efficient or incapable farmers to more capable and resourceful farmers or enterprises. This allows land that might have been abandoned due to lack of resources, technology, or labor to be reintroduced into production, thereby reducing land abandonment.

2.3.2. Rural hollowing villages in china

According to the bulletin of the 7th population census in China, the population living in villages in 2020 was 0.51 billion, a decrease of 16.44 million compared with 2010, and the number of people moving from villages to towns was 0.25 billion, an increase of 0.11 billion compared with 2010 (National Bureau of Statistics, n.d.).

The transfer of a large number of rural people away from agriculture has brought about a negative process of "people leaving the house" and the expansion of newly built housing to the periphery, resulting in a kind of "external expansion and internal emptiness", leading to the emergence of rural hollowing (Liu yansui et al., 2009). The rural hollowing has a unique

geographical, phased and fluctuating nature, and when it develops to a certain extent, rural hollowing villages will emerge (Liu yansui et al., 2011).

The rural hollowing in China has mainly experienced stages such as emergence, growth, flourishing, stability and decline (Liu et al., 2010). As shown in Figure 1, curve A indicates that hollowing appears in the early and middle stages, and enters the decline period in advance under the action of external forces such as policy and planning. Curve B indicates that when hollowing reaches a certain stage, it enters a declining stage through village reconstruction. Curve C indicates that effective measures were taken to reverse the trend of hollowing expansion in the flourishing period of hollowing. Curve D represents the complete evolution process of rural hollowing out (Figure 2).

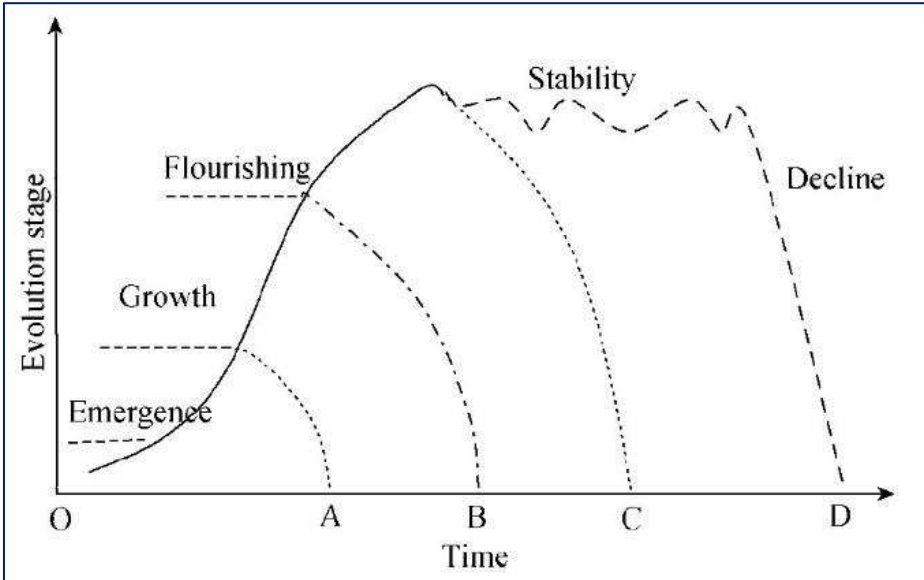


Figure 2 The evolution process of rural hollowing (Liu et al., 2010).

As the inevitable result of the transformation of small-scale peasant economy to modern agriculture, the appearance of rural hollowing villages leads to a waste of rural land resources and population loss. However, under the guidance of appropriate policies, it may bring opportunity to agricultural large-scale management and promote the development of urban and rural integration in China (D. Wang et al., 2021; Wen et al., 2023).

2.3.3. Rural disaster risk

With vast territory, complex terrain, and increasing climate change, China is more susceptible to natural disasters than other regions, in particular in rural areas (Wu et al., 2022). In 2023, natural disasters in China are mainly floods, typhoons, earthquakes, and geological disasters. Drought, wind and hail, low-temperature freezing and snow disasters, sandstorms, and forest and grassland fires also occur to varying degrees. According to the Ministry of Emergency Management of China, in 2023, natural disasters in China led to economic losses of 345.45 billion yuan, damaged or directly caused the collapse of 2.273 million houses, and destroyed

Rural Development in China and Namibia: Comparison of Problems and Policy Responses (12641)
 Uchendu Eugene Chigbu (Namibia), Chen Ruishan (China, PR), Laina Alexander (Namibia) and Guo Xiaona (China, PR)

10.539 thousand hectares of crops. Compared with the average of the past five years, the number of collapsed houses and direct economic losses have increased by 96.9% and 12.6%, respectively (Ministry of Emergency Management of the People's Republic of China, 2024). Various factors, such as administrative divisions and levels of economic development, influence different rural regions, resulting in the coexistence of new and old houses with varying quality. Correspondingly, their vulnerability and anti-disaster ability also vary. Simultaneously, due to the adoption of different standards and specifications for building structures in different years, there are differences in the disaster resistance of buildings (Chaoxu et al., 2021). In economically underdeveloped rural areas, the prevalent structural type is usually single, weak, and lacks quality supervising, leading to poorer house quality (Chaoxu et al., 2021; Zhang et al., 2014). Many rural areas construct houses by themselves using various masonry structures, including brick and wood, and brick and concrete that lack structural columns. Additionally, the misuse of modern building materials has contributed to the subpar quality of residential buildings and reduced disaster resistance in rural areas (Chen et al., 2018).

Rural areas are especially susceptible to disasters due to inadequate adaptation measures and infrastructure. A significant challenge is the lack of sufficient infrastructure to respond to disasters, such as floods, wildfires, and extreme weather events. In many rural areas, evacuation and access to critical resources during a disaster are impeded by inadequate roads, bridges, and emergency shelters (Coppola, 2006). This deficiency worsens the impact of disasters and increases the vulnerability of rural communities. Furthermore, the absence of crucial amenities such as air conditioning exacerbates the risk in rural areas. High temperatures and heatwaves, which are worsened by climate change, pose a severe threat to rural populations, particularly the elderly and those with pre-existing health conditions. The absence of air conditioning not only increases the risk of heat-related illnesses but also reduces the resilience of rural communities during prolonged periods of extreme heat (Golechha and Panigrahy, 2020; Hess et al., 2018).

The lack of early warning systems and communication networks in rural areas also hinders the dissemination of vital information before and during disasters, hindering preparedness and response efforts. As a result, vulnerability increases, and there is a higher potential for loss of life and livelihoods during disasters (Paton and Johnston, 2001). In conclusion, the absence of adaptation measures and infrastructure in rural areas significantly increases the risk posed by disasters. To address these challenges, it is necessary to invest in resilient infrastructure, improve access to essential resources, and implement effective early warning systems tailored to rural contexts (Dewa et al., 2023; Kelman, 2012).

2.3.4. Change of rural culture and knowledge systems

The transformation and disappearance of culture are a very complex problem. Rural culture's evolution in China encounters substantial influence from both national and local policies. In a spatial production landscape predominantly controlled by power and capital, rural communities face the dual challenge of safeguarding their traditional cultural heritage while nurturing the emergence of a fresh cultural identity (Ye et al., 2020). In the examination of rural concerns, culture is frequently disregarded. Nevertheless, culture plays a significant role in molding

communities (Brennan et al., 2009). With the advancement of globalization, rural culture undergoes significant transformations (Lang et al., 2016). In China, rural governance has been a crucial instrument for managing the rural populace and realizing desired political objectives. However, the progress of rural culture in China faces significant impacts from both national and local policies, and cultural development grapples with unprecedented challenges arising from rapid urbanization. Although bottom-up rural construction plays a positive role in promoting rural development (Li et al., 2016), the rural construction in China has become a platform for the government to complete the planning and construction goals and continuously ignores the needs of culture. Particularly, rural culture gradually declined in most villages in China, but a new culture has not matured, which is worrying.

In the process of rural construction in China, rural culture is closely related to power, which has become the leading force of cultural development and has penetrated different cultural spaces. Moreover, the government-led mode of cultural development has dominated rural reconstruction in China. Officials have failed to implement specific measures to promote local culture, resulting in a formalized and uniform style of communication that deviates from the original goals of rural cultural development. The scarcity of financial resources poses a significant impediment to numerous cultural spaces. Rural cultural reconstruction should prioritize community, social cohesion, and local identity (Lysgard, 2016). Unfortunately, the government has not adequately addressed the genuine cultural requirements, including the everyday living spaces of residents, and provided sufficient support.

People serve as the bearers of cultural heritage. Currently, rural communities are undergoing the impacts of globalization and urbanization, leading to a significant migration of young individuals from rural areas to urban centers in search of livelihoods. This phenomenon has resulted in the potential loss of traditional rural customs and a diminishing sense of local cultural identity. The transformation of rural culture is characterized by shifts in internal industrial, employment, and consumption structures, as well as corresponding changes in population and land-use patterns (Long et al., 2011). This transition inevitably involves the movement of rural populations from agriculture to industry and from rural to urban areas, potentially leading to the decline of traditional villages. The decrease in the number of administrative villages in China from 732,000 to 502,000 between 2000 and 2020 serves as evidence of this trend. On one hand, the breakdown of traditional rural social networks, increased urban-rural population mobility, weakened common interests within villages, and the disruption of traditional rural governance structures pose significant challenges.

On the other hand, the establishment of a new order and governance model has not been effectively realized, presenting a prominent issue. The decline of traditional cultures, a common phenomenon in transitioning societies, is particularly noticeable in rural areas. As societies transition from traditional to modern, certain customs, rituals, and festivals have disappeared or evolved, while traditional cultural activities face difficulties due to shifts in population, production, lifestyle, and aesthetic preferences. The sparse rural population, limited market for cultural activities, inadequate public cultural infrastructure, and a lack of collective cultural events contribute to the prominent disappearance of traditional culture.

2.4. THE RURAL REVITALIZATION POLICIES AS A MEANS OF INTERVENTION

Rural revitalization has become a focal point in China's policy agenda, reflecting the nation's commitment to addressing rural challenges, fostering sustainable development, and narrowing the urban-rural divide (Chen et al., 2021; Liu et al., 2020). The Chinese government's Rural Revitalization Strategy, launched in 2018, outlines a multifaceted approach to rejuvenate rural areas, enhance agricultural productivity, and improve living standards. This comprehensive policy aims to boost rural economies, improve infrastructure, and create a favorable environment for residents, ultimately fostering a balanced and harmonious development between urban and rural regions. Key components of rural revitalization policy including agricultural modernization, rural industrialization, infrastructure development, ecological conservation and environmental protection, rural culture development and prosperity, as well as social welfare and poverty alleviation

2.4.1. Agricultural modernization

At the core of the Rural Revitalization Policy is the drive for agricultural modernization. By leveraging advanced technologies, precision farming techniques, and sustainable practices, the goal is to enhance the productivity and efficiency of agriculture. This not only ensures food security but also positions the agricultural sector as a lucrative and competitive contributor to rural economies. The Chinese government has issued a plan to advance agricultural and rural modernization during the 14th Five-Year Plan period (2021-2025). The country is expected to make decisive progress in comprehensive rural revitalization, and generally achieve agricultural and rural modernization by 2035, according to the plan ("China unveils plan to advance agricultural, rural modernization," n.d.). The plan aims to stabilize grain acreage, optimize species structure, protect arable land, and promote high-standard farmland. It emphasizes modernizing husbandry, upgrading the fishing industry, and developing diverse crops. This includes creating functional grain production areas and protecting zones for crucial agricultural products. Disaster prevention, market adjustments, and stable international supply chains are highlighted for sector resilience. The plan also focuses on scientific and technological support, seed industry development, and improved agricultural equipment. It aims to establish a modern rural industry system, enhance infrastructure, and improve living conditions for farmers. The plan emphasizes a green, low-carbon transformation in rural production and living, promoting resource efficiency and a cleaner environment, connecting poverty eradication, rural revitalization, and integrated urban-rural development.

2.4.2. Rural industrialization

Diversifying rural economies is a key focus, achieved through the promotion of rural industries. The policy encourages the development of agribusinesses, rural tourism, and small and medium-sized enterprises (SMEs). By creating a conducive environment for entrepreneurship, the aim is to generate employment opportunities, attract talent, and stimulate economic growth in rural areas. With the improvement of the interest linkage mechanism as the core, the innovation of system, technology and business model as the driving force, the cross-integration of the primary, secondary and tertiary industries in rural areas is promoted, the development of

an industrial system rooted in agriculture and rural areas, sponsored by local farmers, highlighting regional characteristics and rural values is accelerated, and the comprehensive revitalization of rural industries is promoted. For example, in the comprehensive demonstration case of e-commerce into rural areas, on the basis of achieving full coverage of state-level poor counties with conditions in 2019, further tap counties with potential to deepen rural e-commerce demonstration work, gradually cultivate a number of comprehensive demonstration counties of e-commerce into rural areas, and build and improve the rural e-commerce public service system. Agricultural and commercial interconnection, circular agriculture, rural tourism quality projects are a number of major projects to build rural industrial system.

2.4.3. Infrastructure development

Infrastructure plays a pivotal role in rural revitalization. The policy underscores the importance of upgrading rural infrastructure, including roads, healthcare facilities, educational institutions, and telecommunications. Improved connectivity and accessibility contribute to the overall development of rural communities. In eligible townships and organized villages, ensure all roads are hardened, and enhance widening and reconstruction of narrow road segments. Support improvements to traditional circulation nodes, expand logistical services including distribution, and refine rural freight and passenger transportation networks. Promote coordinated development in urban-rural passenger transportation and distribution. Complete tasks such as river course rectification, reservoir reinforcement, grassroots flood prevention systems, and water-conserving transformations in large irrigation areas. Adapt to local conditions for constructing distributed clean energy networks and initiating demonstrative energy system projects. Achieve full high-speed broadband coverage in urban and rural areas, continually strengthen fiber optic infrastructure in villages, and improve fiber broadband penetration and access in townships and subordinate regions.

2.4.4. Ecological conservation and environmental protection

Recognizing the significance of ecological balance, the policy integrates measures for environmental protection and sustainable development. Afforestation programs, water conservation initiatives, and the promotion of eco-friendly agricultural practices aim to harmonize economic growth with environmental stewardship. Promote the green development of agriculture through national water conservation initiatives, aquatic life protection efforts, addressing prominent environmental issues in agriculture, and promoting the recycling of waste resources. Continuously improve rural living environments through rural waste management, treatment of rural domestic wastewater, toilet revolution, greening initiatives, and water environmental management. Strengthen rural ecological protection and restoration through national ecological security barrier protection and restoration, large-scale national land greening, grassland and wetland protection and restoration, comprehensive rural land improvement, and the afforestation and prosperity initiative.

2.4.5. Rural culture development and prosperity

The construction of civilized countryside is one of the important goals of rural culture. Rural cultural policies should focus on moral advancement, rural education, traditional culture promotion and the provision of public services. The policy is achieved through three main measures: adhere to the core socialist values as the guidance; To inherit and develop the excellent traditional Chinese culture as the core; Take the construction of rural public cultural service system as the carrier. Traditional rural culture, such as architecture, agricultural relics, excellent opera and folk art, and minority culture, provides high-quality carriers for enhancing cultural self-confidence. By excavating the cultural symbols of rural characteristics, we can create special and differentiated characteristic towns and beautiful villages, thus reshaping the rural cultural ecology. We should enrich rural cultural life by improving the public cultural service system, increasing the supply of public cultural products and services, and extensively carrying out mass cultural activities.

2.4.6. Social welfare and poverty alleviation

Enhancing social welfare and addressing poverty are integral components of the policy. Measures include strengthening the social security system, providing affordable housing, and implementing targeted poverty alleviation programs. By uplifting the living standards of rural residents, the government aims to create a more inclusive and equitable society. In the rural post-productivism transformation, place-making as a land-use optimization strategy has taken full advantage of rural rich resources through the different stakeholders' cooperation (Huang et al., 2020).

Despite substantial progress, challenges such as an aging rural population and the urban-rural income gap persist. Ongoing efforts to refine policies and ensure effective implementation at the grassroots level are imperative. Looking forward, international collaboration, the integration of digital technologies, and a continued focus on sustainable practices will likely shape the future trajectory of China's rural revitalization efforts.

China's Rural Revitalization Policy signifies a concerted effort to address the unique needs of rural areas, fostering a comprehensive approach to sustainable development. As the nation continues to navigate the complexities of rural transformation, the policy stands as a testament to China's commitment to building resilient, prosperous, and harmonious rural communities. To foster rural revitalization, it is essential to embrace a strategy of urban-rural coordination, ensuring a cohesive development approach between urban and rural sectors. The pursuit of common prosperity underscores the significance of optimizing the operation and management of rural entities while safeguarding the rights of farmers and public ownership. Meeting the increasing consumer demand for high-quality agricultural products necessitates a more resource-efficient utilization in the rural sector. The central focus of an eco-friendly revitalization path is green development. Elevating human capital stands as the core element in promoting cultural advancement for rural revitalization. The enhancement of rural governance and a conducive social environment play crucial roles in realizing the goals of rural revitalization. Embracing a distinctive Chinese approach to rural revitalization is imperative for consolidating the elimination of absolute poverty.

3. RURAL TRANSITION IN NAMIBIA

In Namibia, rural areas refer to the entire countryside other than the municipalities and townships established by the government (Republic of Namibia, 2013). These include both freehold and state-owned communal and resettlement land, which supports activities such as farming ranges from capital-intensive commercial to low-input subsistence, including protected areas.

In the colonial and apartheid periods in Namibia, strict regulations on people's movement were enforced, confining the majority of black individuals to designated reserves in rural areas and specific sections of major cities, such as the black township in Katutura (Niikondo, 2010). These constraints were established and enforced through influx control and pass laws. Typically, men were the ones permitted to move from rural areas to urban centers for employment in factories, residing in single-squatter houses, with legal restrictions preventing them from bringing their families. The abolition of the influx rule in 1977, coinciding with the end of apartheid legislation, led to rural-urban migration, rapid urbanization, and the expansion of informal settlements (Seckelmann, 1997). According to the 2011 national census, there has been a substantial increase in the urban population, rising from 33% to 43% over the last decade, while the rural population has decreased by approximately ten percentage points (NSA, 2011)

3.1. RURAL CHALLENGES IN NAMIBIA

Rural areas in Namibia are faced with various challenges such as inadequate access to water, education, inadequate healthcare facilities, lack of access to land, lack of employment opportunities, food insecurity and poverty and climate change and inadequate environmental management. These challenges are briefly explained below.

Inadequate water access: Despite the government's obligation to provide clean water to its citizens, numerous Namibians residing in rural areas and low-income communities encounter significant challenges in obtaining clean water for their daily use. A substantial portion of Namibians, particularly those in rural areas, lack access to amenities such as running water or toilets within their residences or compounds (Tjirera in 2018). According to the Afrobarometer's 2018 survey, only approximately half of rural Namibians (49%) rely on sources of water located outside their compounds, with merely one in five (20%) having access to running water in their homes.

Education: The majority of students in Namibia's rural areas have access to education, although schools suffer infrastructural issues. For example, during the 2023 rainy season, the northern part of Namibia experienced a devastating flood, destroying some classrooms and forcing students to learn under trees (Alexander et al., 2023). However, this did not simply begin after the disaster, but has been ongoing for some time due to financial limits in the ministerial budget.. According to Moses (2019), due to the proximity of educational institutions, some schools provide accommodation, of which some are makeshift, for learners and teachers. However, the conditions are dilapidated, unhygienic and overpopulated with no regular maintenance of the facilities. All these conditions make it difficult to recruit and retain qualified

teachers.

Inadequate healthcare facilities: Many people opt to retire in rural areas especially in Africa (Møller, 1988), leading to an ageing population in rural areas. Elderly individuals require ongoing healthcare, yet travelling long distances can be time-consuming and can also make their health conditions worse. To receive emergency medical assistance, individuals must travel long distances to a town or the capital city. This is inconvenient, especially for emergency situations that require immediate medical attention. There is minimal access to public transport. Road infrastructure is the next difficulty. Some areas are not easily accessible by all vehicles. It's much more difficult to navigate during the rainy season, when you risk getting your vehicle stuck in the mud. As a result, public transport and emergency services like ambulances cannot access such remote areas.

Lack of access to land: According to De Villiers et al. (2019), Namibia has two major land tenure systems: freehold in declared urban areas and so-called commercial farms, and customary tenure on communal property in rural areas. With increased competition for land and land concentration through illegal fencing in communal areas, the lack of legal protection for customary land rights exacerbates vulnerabilities and precariousness in access to land (Mendelsohn et al., 2011). As a result, marginalised groups such as indigenous peoples and women continue to face barriers to land access and ownership. For women in particular, certain traditional authority continue to defend traditions and rituals that disadvantage them. Despite the fact that the Communal Land Reform Act requires these entities to manage land, the representation of women in these structures is very low (De Villiers et al., 2019), access to land still supports patrilineal systems of land inheritance and accessibility.

Lack of employment opportunities: Namibia's rural areas frequently lack employment prospects. Economic development and robust infrastructure to meet societal demands. Job possibilities with better incentives can be found in urban areas, which are the country's economic hubs. The existing rural work opportunities are low-paying (Alexander et al., 2023) and for those who want to establish a business, their ambitions remain just that because financial institutions impose restrictions that are unfriendly to the majority of people living in rural communities. The Development Bank of Namibia Limited (DBN) provides financing for viable businesses and long-term initiatives that benefit Namibia's development. DBN Loan Facilities help firms launch or expand their present operations. However, DBN has announced that they will not provide financial aid to persons who do not have collateral (Endjala, 2023); this is one of the many barriers that prevent most people from pursuing business.

Food insecurity and poverty: Rural communities suffer from severe hunger and food insecurity. According to the World Bank (2021), a staggering 64% of Namibians live in poverty, with a 20.8% unemployment rate. Agriculture in Namibia is an economic pillar that supports all livelihoods through food, employment, and income, and it is the primary economic activity in rural areas, whether for subsistence or commercial purposes. Reduced agricultural output has a severe impact on food systems, particularly in rural areas, compromising the country's food self-sufficiency and security.

Rural Development in China and Namibia: Comparison of Problems and Policy Responses (12641)

Uchendu Eugene Chigbu (Namibia), Chen Ruishan (China, PR), Laina Alexander (Namibia) and Guo Xiaona (China, PR)

FIG Working Week 2024

Your World, Our World: Resilient Environment and Sustainable Resource Management for all

Accra, Ghana, 19–24 May 2024

Climate change and inadequate environmental management: The majority of Namibia's rural land has marginal potential due to water scarcity, poor soil, and fluctuation in grazing resources and animal carrying capacities. Nonetheless, agriculture remains a major source of income for a substantial majority of rural people. As a result, they are frequently struck by crop failure and must rely on government subsidies and drought relief. Widespread land degradation (deforestation, soil erosion, bush encroachment, and soil salinization) lowers agricultural production and food security. A variety of flaws exist in Namibia's management and use of its rural natural resource base, and there are numerous challenges to environmentally (as well as economically and socially) sustainable rural development.

3.2. RURAL POLICIES FOR ADDRESSING THE CHALLENGES

The development of rural areas, particularly the solving of rural challenges, has been emphasised in various legal frameworks in Namibia, including the National Development Plans, Vision 2030, the Communal Land Reform Act No.5 of 2002, the Harambee Prosperity Plan, and the Rural Development Policy and Strategy. However, Namibia only has one policy in place for dealing with rural development concerns. In 2012, the Ministry of Urban and Rural Development (MURD) launched the National Rural Development Policy and Strategy. Since then, the Ministry and other stakeholders have been carrying out programmes and initiatives in rural regions in accordance with the National Rural Development Policy and Strategy. The overarching goal of the policy is to ensure systematic, integrated, and coordinated planning and implementation. The overall objective of the policy is to ensure a systematic, integrated and coordinated planning and implementation of development in rural areas to improve the livelihood of people living in rural communities.

The policy identified the following strategic approaches in effort to address rural challenges, namely: coordination and integration of rural development action; people's empowerment and civic participation; rural infrastructure and services development; environmental protection and sustainable use of natural resources; social welfare services; support to rural agriculture; and sustainable rural economic development (to mention the key ones).

4. CROSS-COUNTRY COMPARISON AND LESSONS

A comparison of the human development indexes between China and Namibia says a lot about the two countries. For this study, we conducted an online quality of life between the two countries. A quality-of-life comparison is done online using *MyLifeElsewhere*, an online platform that allows for comparing countries and cities around the world. *MyLifeElsewhere* is a collaborative community that allows people to compare the country they live in with other countries around the world. It provides statistics that differentiate countries from each other, including geographical size, cost of living, life expectancy, healthcare, education and many other indices. All data from the platform are open data sourced from governments.

The simple comparison of quality-of-life comparison done with *MyLifeElsewhere* is quite telling. China occupies a land area of 9.60 million km² while Namibia is an area 825,615 km². Population of China is around 1.4 billion while that of Namibia is paltry 2.5 million. China has a GDP per capita of US \$16,400 while Namibia has a GDP per capita of US \$8,900. About

17.4% of people in Namibia live below the poverty line, while only 0.6% of people in China live below the poverty line. The unemployment rate in Namibia is 34% compared to only 3.6% in China. Life expectancy in Namibia is 66 years while in China it is 76 years. About 17.2% of adults in Namibia are obese, while only 6.2% of adults in China are obese. Namibia spends 9.4% of its total GDP on education while China spends 3.5% of its total GDP on education. On health care, Namibia spends 8.5% of its total GDP on healthcare, while China spends 5.4%. Apart from education, where Namibia gives more from its GDP, the two countries stand a world apart in statistical comparison. One inference from these statistics is that China and Namibia are countries with varying sizes and demographics. What they, however, share is that they are plagued by rural problems. To get a deeper look into the rural features of China and Namibia, we present a comparison matrix (Table 1).

Table 1: Rural features comparison matrix for China and Namibia

Categories	Features	China	Namibia
Land	Total land area	9.60 million km ²	825,615 km ²
	Rural land	Over 65%	Over 40%
	Rural landholding	Collective ownership (collectivisation)	Collective use (communal tenure)
Population	Total population	1.4 billion	2.7 million
	Rural population	34.78%	46%
	Density	145/km ²	3.2/km ²
Health	Health care	5.4% of GDP	8.5% of GDP
	Obesity	6.2%	17.2%
	Life expectancy	76 years	66 years
Key rural challenges	Limited infrastructure		
	Sparse population		
	Subsistence agriculture		
	Traditional lifestyle		
	Aging population		
	Environmental vulnerabilities		
	Limited access to services		
	Farmland abandonment		
Economic	GDP Per capita	US \$16,400	US \$11,603
	People below poverty line	0.6%	17.4%
	Unemployment rate	3.6%	34%
Education	Education spending	3.5% of GDP	9.4% of GDP
	Adult literacy	97.15%	92.25%

Rural Development in China and Namibia: Comparison of Problems and Policy Responses (12641)

Uchendu Eugene Chigbu (Namibia), Chen Ruishan (China, PR), Laina Alexander (Namibia) and Guo Xiaona (China, PR)

FIG Working Week 2024

Your World, Our World: Resilient Environment and Sustainable Resource Management for all

Accra, Ghana, 19–24 May 2024

ICT	Internet coverage	80%	52%
	Rural internet coverage	58.8%	-
Rural policy	Spatial development plan		
	Revitalisation		
	Industrialisation		
	Socioeconomic development plan		
	Rural planning		
	Information technology		
	Renewable energy		
	Health		
	Education		
	Land reform		
	Infrastructure		
	Ecological conservation		
	Protection against culture loss		
	Social welfare		
	Poverty alleviation		
	Local knowledge system		
Agricultural modernisation			
Urban-rural linkages			

In Table 1, the shaded portions of the table shaded in **blue colour** represents the *presence* while the portion shaded **orange colour** represents *absence* of their associated rural *policies* and *challenges* in China compared to Namibia. The statistics (mostly approximated) and ratings shown on the table are based on literature from Chang et al. (2011), Mendelsohn et al. (2011), Ye and Pan (2011), Tjirera (2018), de Villiers et al. (2019), Xiao (2020), Qin and Lv, (2020), Tong and Lo (2021), Wang et al. (2021), Chigbu (2023), Endjala (2023), Chigbu et al. (2023a/b), National Bureau of Statistics of China (2021), Xing et al. (2023) and MyLifeElsewhere (2024).

Based on these statistics and narratives on China and Nabian rural development, it is possible to state the following comparative lessons from specific rural development themes presented below.

Urbanization impact: China's experience reflects a massive rural-to-urban migration, driven by

economic opportunities and deregulation of mobility. This has contributed to rapid urbanization and industrialization. In contrast, Namibia has seen a decrease in rural population due to various challenges, including limited employment opportunities.

Aging population: Both China and Namibia face challenges related to an aging rural population. In China, the aging population has implications for labor supply, medical care, and social welfare. In Namibia, an aging population poses challenges for healthcare access, especially in rural areas where elderly individuals may struggle to access medical assistance.

Land use changes: China has experienced cropland abandonment due to rural depopulation, affecting food production and leading to changes in land use. Namibia faces challenges related to land access and tenure systems, with issues such as illegal fencing contributing to vulnerabilities and barriers to land ownership, particularly for marginalized groups.

Social and economic disparities: Both countries have rural challenges related to inadequate access to basic necessities. In China, rural challenges include the impact of labor migration on family structures, while in Namibia, issues such as inadequate access to water, education, healthcare, and employment opportunities contribute to disparities between urban and rural areas.

Policy initiatives: The Chinese government has initiated policies to address rural conditions and manage the consequences of rural depopulation. Namibia has the National Rural Development Policy and Strategy, highlighting the importance of systematic, integrated, and coordinated planning for rural development.

Environmental impact: In Namibia, climate change and inadequate environmental management contribute to challenges in rural areas, affecting agriculture and food security. Land degradation and various environmental issues are highlighted as obstacles to sustainable rural development.

The experiences of both countries highlight the global issue of rural challenges, emphasizing the importance of comprehensive policies and strategies to address issues such as population decline, aging, access to resources, and environmental sustainability.

5. CONCLUSION

The comparison of rural population dynamics and challenges in China and Namibia provides valuable insights into the complexities and varied factors influencing rural development. In China, the profound shift from rural to urban areas, driven by economic opportunities and mobility deregulation, has triggered consequential changes in land use, family structures, and overall rural lifestyle. In Namibia, historical legacies of colonialism and apartheid have contributed to unique challenges, such as rural-urban migration and the expansion of informal settlements. Both nations are faced with common issues of an aging rural population, inadequate access to basic amenities, and environmental sustainability.

The experiences of these countries underscore the global nature of rural challenges and the need for context-specific strategies. China's response involves policy initiatives to address the consequences of rural depopulation, while Namibia emphasizes systematic planning through its National Rural Development Policy and Strategy. The importance of a holistic approach is evident, considering social, economic, environmental, and historical factors.

In conclusion, the experiences of China and Namibia underscore the need for an in-depth understanding of rural challenges and the implementation of comprehensive policies that prioritize the well-being of rural communities. As nations navigate the of rural development, a collaborative and adaptive approach will be essential to build resilient, sustainable, and thriving rural landscapes for the future.

REFERENCES

- Alexander, L., Simataa Ntwala., Kohima, J., Mabakeng, R, M., Ricardo, P., Marenga, C. Siukuta, M. 2023. A case for prioritising rural development in Namibia. FIG Working Week 2023 Protecting Our World, Conquering New Frontiers, Orlando, Florida, USA, 28 May–1 June 2023
- Benessaiah, K., 2021. Reconnecting to nature amidst crisis: harnessing capacities and mobilities for livelihood and land transformations in the Greek back-to-the-land trend. *Journal of Rural Studies* 84, 76–89. <https://doi.org/10.1016/j.jrurstud.2021.02.005>
- Brennan, M. a., Flint, C.G., Luloff, A. e., 2009. Bringing Together Local Culture and Rural Development: Findings from Ireland, Pennsylvania and Alaska. *Sociologia Ruralis* 49, 97–112. <https://doi.org/10.1111/j.1467-9523.2008.00471.x>
- Chang, H., Dong, X., MacPhail, F., 2011. Labor Migration and Time Use Patterns of the Left-behind Children and Elderly in Rural China. *World Development* 39, 2199–2210. <https://doi.org/10.1016/j.worlddev.2011.05.021>
- Chaoxu, X., Gaozhong, N., Huayue, L., Xiwei, F., Rui, Y., Xun, Z., 2021. Comparative analysis of the earthquake disaster risk of cities in Eastern China based on lethal levels – a case study of Yancheng City, Suqian City and Guangzhou City. *Geomatics, Natural Hazards and Risk* 12, 3224–3264. <https://doi.org/10.1080/19475705.2021.2009580>
- Chen, M., Zhou, Y., Huang, X., Ye, C., 2021. The Integration of New-Type Urbanization and Rural Revitalization Strategies in China: Origin, Reality and Future Trends. *Land* 10, 207. <https://doi.org/10.3390/land10020207>
- Chen, Yilin, Shen, H., Smith, K.R., Guan, D., Chen, Yuanchen, Shen, G., Liu, J., Cheng, H., Zeng, E.Y., Tao, S., 2018. Estimating household air pollution exposures and health impacts from space heating in rural China. *Environment International* 119, 117–124. <https://doi.org/10.1016/j.envint.2018.04.054>

Rural Development in China and Namibia: Comparison of Problems and Policy Responses (12641)

Uchendu Eugene Chigbu (Namibia), Chen Ruishan (China, PR), Laina Alexander (Namibia) and Guo Xiaona (China, PR)

FIG Working Week 2024

Your World, Our World: Resilient Environment and Sustainable Resource Management for all

Accra, Ghana, 19–24 May 2024

- Chigbu, U.E. 2023. Role of Forestland in Climate Change Mitigation: Land Administration Perspective. In Conference Proceedings of the 2nd National Conference On Sustainable Forest Management as Key to Unlock its Potential the Future of Namibia's Forests (pp. 7-11). Hanns Seidel Foundation, Namibia.
- Chigbu, U.E., Klaus, M., Zhang, W. and Alexander, L. 2023a. Rural Land Management and Revitalization through a Locally Coordinated Integrated Master Plan—A Model from Germany to China. *Land*, 12, no. 10: 1840. <https://doi.org/10.3390/land12101840>
- Chigbu, U.E., Alexander, L., Kohima, J. and klaus. M. 2023b. A Brief Recapitulation Urban-Rural Land Linkages: Concept, Framework and Evidence. FIG Working Week 2023 Protecting Our World, Conquering New Frontiers, Orlando, Florida, USA, 28 May–1 June 2023.
- China unveils plan to advance agricultural, rural modernization [WWW Document], n.d. URL https://english.www.gov.cn/policies/latestreleases/202202/11/content_WS620654d4c6d09c94e48a4f38.html (accessed 1.24.24).
- Coppola, D., 2006. Introduction to International Disaster Management. Elsevier.
- Dewa, O., Makoka, D., Ayo-Yusuf, O.A., 2023. Measuring community flood resilience and associated factors in rural Malawi. *Journal of Flood Risk Management* 16, e12874. <https://doi.org/10.1111/jfr3.12874>
- De Villiers, S., Christensen, Å., Tjipetekera, C., Delgado, G., Mwando, S., Nghitevelekwa, R., Awala, C., & Katjiua, M. 2019. Land Governance in Namibia. Retrieved from <http://landsymposium.nust.na/sites/default/files/2019-08/Land%20Governance%20in%20Namibia%203-4%20September%202019.pdf>
- Endjala, M. 2023. DBN will not award loans to SMEs without collateral. Retrieved from <https://www.observer24.com.na/dbn-will-not-award-loans-to-smes-without-collateral/>
- Fei, R., Lin, Z., Chunga, J., 2021. How land transfer affects agricultural land use efficiency: Evidence from China's agricultural sector. *Land Use Policy* 103, 105300. <https://doi.org/10.1016/j.landusepol.2021.105300>
- Gao, J., Song, G., Sun, X., 2020. Does labor migration affect rural land transfer? Evidence from China. *Land Use Policy* 99, 105096. <https://doi.org/10.1016/j.landusepol.2020.105096>
- Golechha, M., Panigrahy, R.K., 2020. COVID-19 and heatwaves: a double whammy for Indian cities. *The Lancet Planetary Health* 4, e315–e316. [https://doi.org/10.1016/S2542-5196\(20\)30170-4](https://doi.org/10.1016/S2542-5196(20)30170-4)
- Hess, J.J., Lm, S., Knowlton, K., Saha, S., Dutta, P., Ganguly, P., Tiwari, A., Jaiswal, A., Sheffield, P., Sarkar, J., Bhan, S.C., Begda, A., Shah, T., Solanki, B., Mavalankar, D., 2018. Building Resilience to Climate Change: Pilot Evaluation of the Impact of India's First Heat Action Plan on All-Cause Mortality. *Journal of Environmental and Public Health* 2018, e7973519. <https://doi.org/10.1155/2018/7973519>
- Huang, Y., Hui, E.C.M., Zhou, J., Lang, W., Chen, T., Li, X., 2020. Rural Revitalization in China: Land-Use Optimization through the Practice of Place-making. *Land Use Policy* 97, 104788. <https://doi.org/10.1016/j.landusepol.2020.104788>
- Jiang, Y., Tang, Y.-T., Long, H., Deng, W., 2022. Land consolidation: A comparative research between Europe and China. *Land Use Policy* 112, 105790. <https://doi.org/10.1016/j.landusepol.2021.105790>

Rural Development in China and Namibia: Comparison of Problems and Policy Responses (12641)

Uchendu Eugene Chigbu (Namibia), Chen Ruishan (China, PR), Laina Alexander (Namibia) and Guo Xiaona (China, PR)

FIG Working Week 2024

Your World, Our World: Resilient Environment and Sustainable Resource Management for all
Accra, Ghana, 19–24 May 2024

- Kelman, B.W., J.C. Gaillard, Ilan (Ed.), 2012. Handbook of Hazards and Disaster Risk Reduction. Routledge, London. <https://doi.org/10.4324/9780203844236>
- Lang, W., Chen, T., Li, X., 2016. A new style of urbanization in China: Transformation of urban rural communities. *Habitat International* 55, 1–9. <https://doi.org/10.1016/j.habitatint.2015.10.009>
- Li, S., Li, X., Sun, L., Cao, G., Fischer, G., Tramberend, S., 2018. An estimation of the extent of cropland abandonment in mountainous regions of China. *Land Degradation & Development* 29, 1327–1342. <https://doi.org/10.1002/ldr.2924>
- Li, Y., Westlund, H., Zheng, X., Liu, Y., 2016. Bottom-up initiatives and revival in the face of rural decline: Case studies from China and Sweden. *Journal of Rural Studies, Rural Restructuring in China* 47, 506–513. <https://doi.org/10.1016/j.jrurstud.2016.07.004>
- Liu, Y., Zang, Y., Yang, Y., 2020. China's rural revitalization and development: Theory, technology and management. *J. Geogr. Sci.* 30, 1923–1942. <https://doi.org/10.1007/s11442-020-1819-3>
- Liu, Yansui, Liu, Yu, Chen, Y., Long, H., 2010. The process and driving forces of rural hollowing in China under rapid urbanization. *J. Geogr. Sci.* 20, 876–888. <https://doi.org/10.1007/s11442-010-0817-2>
- Liu yansui, Liu yu, Zhai rongxin, 2009. Geographical Research and Optimizing Practice of Rural Hollowing in China. *Acta Geographica Sinica* 64, 1193–1202.
- Liu yansui, Long hualou, Zhang xiaolin, Qiao jiajun, 2011. Research Progress and Prospect in the Disciplines of Agricultural Geography and Rural Development in China. *地理科学进展* 30, 1498–1505.
- Long, H., Li, Y., Liu, Y., Woods, M., Zou, J., 2012. Accelerated restructuring in rural China fueled by ‘increasing vs. decreasing balance’ land-use policy for dealing with hollowed villages. *Land Use Policy* 29, 11–22. <https://doi.org/10.1016/j.landusepol.2011.04.003>
- Long, H., Zou, J., Pykett, J., Li, Y., 2011. Analysis of rural transformation development in China since the turn of the new millennium. *Applied Geography* 31, 1094–1105. <https://doi.org/10.1016/j.apgeog.2011.02.006>
- Lysgård, H.K., 2016. The ‘actually existing’ cultural policy and culture-led strategies of rural places and small towns. *Journal of Rural Studies* 44, 1–11. <https://doi.org/10.1016/j.jrurstud.2015.12.014>
- Ministry of Emergency Management of the People's Republic of China, 2024. The Emergency Management Department of the Office of the National Committee for Disaster Prevention, Reduction and Relief has released the basic situation of natural disasters in China for 2023.
- Moses, P. (2019, June 24). Rural schools still face many challenges. *New Era*. Retrieved from <https://neweralive.na/posts/rural-schools-still-face-many-challenges>
- National Bureau of Statistics, n.d. The bulletin of the 7th population census [WWW Document]. URL https://www.stats.gov.cn/sj/tjgb/rkpcgb/qgrkpcgb/202302/t20230206_1902001.html (accessed 1.24.24).
- National Bureau of Statistics of China, 2021. Major figures on 2020 population census of China [WWW Document]. URL <https://www.stats.gov.cn/sj/pcsj/rkpc/d7c/> (accessed 1.24.24).

Rural Development in China and Namibia: Comparison of Problems and Policy Responses (12641)

Uchendu Eugene Chigbu (Namibia), Chen Ruishan (China, PR), Laina Alexander (Namibia) and Guo Xiaona (China, PR)

FIG Working Week 2024

Your World, Our World: Resilient Environment and Sustainable Resource Management for all

Accra, Ghana, 19–24 May 2024

- NSA (2011). Namibia 2011: Population & Housing Census Main Report, Namibia Statistics Agency.
- Niikondo, A. 2010. "Migrants to cities and towns in Namibia: What their interests are?"
- Odada, J. E.; Kakujaha-Matundu, Omu (2008): China-Africa economic relations: The case of Namibia, AERC Scoping Studies on China-Africa Economic Relations, African Economic Research Consortium (AERC), Nairobi This Version is available at: <http://hdl.handle.net/10419/93167>
- Paton, D., Johnston, D., 2001. Disasters and communities: vulnerability, resilience and preparedness. *Disaster Prevention and Management: An International Journal* 10, 270–277. <https://doi.org/10.1108/EUM0000000005930>
- Qin, M., Lv, L., 2020. The Scale, Family Structure and Evolution Trend of China's Rural Left-Behind Population. *Journal of Yan'an University (Social Sciences Edition)* 42, 77–84.
- Republic of Namibia. 2013. National Rural Development Strategy 2013/14 – 2017/18. Windhoek: Government Printers. Retrieved from <https://faolex.fao.org/docs/pdf/nam191145.pdf>
- Seckelmann, A. 1997. "Low-income Housing Projects in Windhoek, Namibia."
- Shikalepo, E. 2020. Improving the Quality of Education at Rural Schools in Namibia. *International Journal of Research and Innovation in Social Science*, 4(2). Retrieved from <https://www.rsisinternational.org/journals/ijriss/Digital-Library/volume-4-issue-2/62-68.pdf>
- Tjirera, E. 2018. Providing Basic Public Services Remains a Challenge for Namibia's Government.
- The World Bank. 2021. Poverty and equity brief: Namibia. Retrieved from https://databankfiles.worldbank.org/public/ddpext_download/poverty/987B9C90-CB9F-4D93-AE8C-750588BF00QA/AM2020/Global_POVEQ_NAM.pdf
- Tong, W., Lo, K., 2021. Back to the Countryside: Rural Development and the Spatial Patterns of Population Migration in Zhejiang, China. *Agriculture* 11, 788. <https://doi.org/10.3390/agriculture11080788>
- Wang, D., Zhu, Y., Zhao, M., Lv, Q., 2021. Multi-dimensional hollowing characteristics of traditional villages and its influence mechanism based on the micro-scale: A case study of Dongcun Village in Suzhou, China. *Land Use Policy* 101, 105146. <https://doi.org/10.1016/j.landusepol.2020.105146>
- Wang, J., Cao, Y., Fang, X., Li, G., Cao, Y., 2022. Does land tenure fragmentation aggravate farmland abandonment? Evidence from big survey data in rural China. *Journal of Rural Studies* 91, 126–135. <https://doi.org/10.1016/j.jrurstud.2022.03.013>
- Wang, X., Hong, J., Fan, P., Xu, S., Chai, Z., Zhuo, Y., 2021. Is China's urban–rural difference in population aging rational? An international comparison with key indicators. *Growth and Change* 52, 1866–1891. <https://doi.org/10.1111/grow.12522>
- Wang, X., Li, Y., Zhou, T., Liu, F., 2023. Twenty Years of Left-Behind Children Education in Rural China: Based on Structural Topic Model. *Journal of Library and Information Science in Agriculture* 35, 43–56.
- Wen, Q., Li, J., Ding, J., Wang, J., 2023. Evolutionary process and mechanism of population hollowing out in rural villages in the farming-pastoral ecotone of Northern China: A case

Rural Development in China and Namibia: Comparison of Problems and Policy Responses (12641)

Uchendu Eugene Chigbu (Namibia), Chen Ruishan (China, PR), Laina Alexander (Namibia) and Guo Xiaona (China, PR)

FIG Working Week 2024

Your World, Our World: Resilient Environment and Sustainable Resource Management for all

Accra, Ghana, 19–24 May 2024

- study of Yanchi County, Ningxia. *Land Use Policy* 125, 106506.
<https://doi.org/10.1016/j.landusepol.2022.106506>
- Wu, S., Zhang, R., Wang, C., Feng, D., 2022. The impact of natural disasters on rural household wealth: Micro evidence from China. *Front. Environ. Sci.* 10, 993722.
<https://doi.org/10.3389/fenvs.2022.993722>
- Xiao, H., 2020. The adverse effects of rural labor force outflow on rural economic development and improvement measures. *World Tropical Agriculture Information* 53–54.
- Xing, Y., Tarimo, C.S., Ren, W., Zhang, L., 2023. The Impact of Health Insurance Policy on the Fertility Intention of Rural Floating Population in China: Empirical Evidence from Cross-Sectional Data. *International Journal of Environmental Research and Public Health* 20, 175. <https://doi.org/10.3390/ijerph20010175>
- Xu, W., Jin, X., Liu, J., Zhou, Y., 2021. Analysis of influencing factors of cultivated land fragmentation based on hierarchical linear model: A case study of Jiangsu Province, China. *Land Use Policy* 101, 105119. <https://doi.org/10.1016/j.landusepol.2020.105119>
- Ye, C., Ma, X., Gao, Y., Johnson, L., 2020. The lost countryside: Spatial production of rural culture in Tangwan village in Shanghai. *Habitat International* 98, 102137.
<https://doi.org/10.1016/j.habitatint.2020.102137>
- Ye, J., Pan, L., 2011. Differentiated childhoods: impacts of rural labor migration on left-behind children in China. *Journal of Peasant Studies* 38, 355–377.
<https://doi.org/10.1080/03066150.2011.559012>
- Zhang, B., Sun, P., Jiang, G., Zhang, R., Gao, J., 2019. Rural land use transition of mountainous areas and policy implications for land consolidation in China. *J. Geogr. Sci.* 29, 1713–1730. <https://doi.org/10.1007/s11442-019-1687-x>
- Zhang, Q., Zhang, J., Jiang, L., Liu, X., Tong, Z., 2014. Flood Disaster Risk Assessment of Rural Housings — A Case Study of Kouqian Town in China. *IJERPH* 11, 3787–3802.
<https://doi.org/10.3390/ijerph110403787>
- Zhang, Y., Li, X., Song, W., Zhai, L., 2016. Land abandonment under rural restructuring in China explained from a cost-benefit perspective. *Journal of Rural Studies, Rural Restructuring in China* 47, 524–532. <https://doi.org/10.1016/j.jrurstud.2016.06.019>
- Zhou, Y., Li, X., Liu, Y., 2020a. Rural land system reforms in China: History, issues, measures and prospects. *Land Use Policy* 91, 104330.
<https://doi.org/10.1016/j.landusepol.2019.104330>
- Zhou, Y., Li, Y., Xu, C., 2020b. Land consolidation and rural revitalization in China: Mechanisms and paths. *Land Use Policy* 91, 104379.
<https://doi.org/10.1016/j.landusepol.2019.104379>
- 中共中央 国务院印发《乡村振兴战略规划（2018 – 2022年）》 [WWW Document], 2018. . 中华人民共和国中央人民政府. URL
https://www.gov.cn/gongbao/content/2018/content_5331958.htm (accessed 1.24.24).

BIOGRAPHICAL NOTES

Uchendu Eugene Chigbu



Eugene is an Associate Professor in Land Administration at the Namibia University of Science and Technology, Windhoek, Namibia. He is a (Co-) author of numerous publications on subjects related to urban-rural development, land rights and gender, tenure responsive land use planning, land degradation and land restoration. He is the Associate Editor of the journal, [Land Use Policy](#).

CONTACTS

Namibia University of Science and Technology, Department of Land and Spatial Sciences
No. 13 Jackson Kaujeua Street, Private Bag 13388, Windhoek, Namibia.

T.: +264612072470 | F: +264612079470 | E: echigbu@nust.na | W: www.nust.na

Ruishan Chen



Professor Ruishan Chen is from the Shanghai Jiaotong University, China. He is the Director of the Urban Climate Change Research Network (UCCRN) East Asian Hub. He has been involved in high level global assessments and reports of land degradation/restoration (IPBES).

CONTACTS

School of Design, Shanghai Jiaotong University, Dongchuan road 800, Minhang district,
Shanghai 200240, China, T.: +86-13764408510 | E: rschen@sjtu.edu.cn |

W: <https://en.sjtu.edu.cn/>

Rural Development in China and Namibia: Comparison of Problems and Policy Responses (12641)
Uchendu Eugene Chigbu (Namibia), Chen Ruishan (China, PR), Laina Alexander (Namibia) and Guo Xiaona (China, PR)

FIG Working Week 2024

Your World, Our World: Resilient Environment and Sustainable Resource Management for all
Accra, Ghana, 19–24 May 2024

Laina Alexander



Ms Alexander is a research associate at the department of land Spatial Sciences, at the Namibia University of Science and Technology, Windhoek, Namibia.

CONTACTS

Namibia University of Science and Technology, No. 13 Jackson Kaujeua Street, Private Bag 13388, Windhoek, Namibia. E: lainaalexander9@gmail.com | W: www.nust.na

Xiaona Guo



Dr Xiaona Guo, is a postdoctoral fellow at the Shanghai Jiaotong University, Shanghai, China.

CONTACTS

School of Design, Shanghai Jiaotong University, Dongchuan road 800, Minhang district, Shanghai 200240, China, E: gxn15802376539@sina.cn | W: <https://en.sjtu.edu.cn/>

Rural Development in China and Namibia: Comparison of Problems and Policy Responses (12641)
Uchendu Eugene Chigbu (Namibia), Chen Ruishan (China, PR), Laina Alexander (Namibia) and Guo Xiaona (China, PR)

FIG Working Week 2024

Your World, Our World: Resilient Environment and Sustainable Resource Management for all
Accra, Ghana, 19–24 May 2024