Thesis

Munkhchimeg Purev

Rural Development Engineering MSc. Program

Gödöllő

2024

Hungarian University of Agriculture and Life Sciences
Szent István Campus
Rural Development Engineering MSc. Program

MSc THESIS

The possibilities of local economic development in Orkhon soum of Darkhan-Uul province, Mongolia

Primary Advisor: Dr. habil Krisztián Ritter PhD
Author: Munkhchimeg Purev, F4ABVS
Institute of Rural Development and Sustainable Economy
Department of Rural and Regional Development

Gödöllő

2024

LIST OF ABBREVIATIONS

- DP - Democratic Party
- EU - European Union
- GDP - Gross Domestic Product
- LDF - Local Development Fund
- LED - Local Economic Development
- LEED - Local Economic and Employment Development
- MNT - Mongolian Tögrög (currency)
- MPP - Mongolian People's Party
- NGO - Non-Governmental Organization
- OECD - Organisation for Economic Co-operation and Development
- PEST - Political, Economic, Social, and Technological (analysis)
- PPP - Public-Private Partnership
- R&D - Research and Development
- SME - Small and Medium Enterprises
- SNG - Sub-National Government
- SPSS - Statistical Package for the Social Sciences
- SWOT - Strengths, Weaknesses, Opportunities, Threats (analysis)
- VAT - Value Added Tax

TABLE OF CONTENTS

I. INTRODUCTION

1.1. Background of study

The Darkhan-Uul province lies in the very heart of Mongolia and therefore gives a very special, promising economic perspective to the country. Strategically put in one of the most strategic and richest provinces in mineral resources, Darkhan-Uul has always played a crucial role in the economic development of the country. The inclusion of my birthplace in the Darkhan-Uul region of this globe definitely makes it a personal issue. But the attractiveness of the Darkhan-Uul province arises not only from the developed infrastructure and skilled labor but also from the geographic centrality that draws business and investment.

In this dynamic province is the relatively modestly placed Orkhon Soum district, which is said to have a less populated one and has been noted for distinct developmental lag. In Darkhan-Uul, the economic pulse of this province is best felt within the Darkhan Soum, which is a hive of activities that are involved in the diverse array of services. The soul of humanity, which provides a variety of services, is Darkhan Soum. The country district of the region could easily be called Orkhon Soum, as it faces slow growth of population and has a visible developmental lag. It is within this context that the root of this research lies, focusing keenly on the Orkhon Soum of Darkhan-Uul Province.

The most fundamental objective of the study aims to make clear the possibilities of local economic development within Orkhon Soum, Darkhan-Uul. This twofold aspiration is what motivates this research: one, to be able to contribute towards a deeper understanding of local economic development within the boundaries of Mongolia, and two, to provide some form of insight into places with similar characteristics and challenges.

In this study, an effort will be made to navigate the path of a very carefully structured methodology. Based on a thorough SWOT analysis, it is henceforth in order to pursue examining which sectors of the economy manifest strong opportunities for growth after such an overview of the economy of Orkhon Soum, Darkhan-Uul. Therefore, it will provide concrete recommendations on the relevant areas to the region and local context-namely, Orkhon Soum. Finally, it will put strong consideration on the concrete aspects of development, facilitating sustainability that is part of eco-tourism and green technologies.

1.2. Research Aim

The primary objective of this study is to delineate pathways for fostering local economic development within Orkhon Soum, Darkhan-Uul Province, Mongolia. Thus, the current research believes that comprehensive studies of the quality-of-life factors affecting the satisfaction determinants of the residents and a critical review of out-migration trends may provide detailed insights and tailor-made recommendations to reinvigorate sustainable economic growth in the region.

1.3. Research questions

The proposed research will address the following key inquiries:

i. What aspects do residents prioritize in assessing their quality-of-life in Orkhon Soum? How are these priorities influenced by demographic factors like age, gender, and education?
ii. What factors contribute to residents' satisfaction or dissatisfaction with their circumstances in Orkhon Soum?
iii. How has the outmigration trend from Orkhon Soum in Darkhan-Uul Province evolved over the past decade?
iv. What could be the possible driving factors of further economic development in Orkhon Soum?

This study employs a multifaceted research approach aimed at comprehensively investigating the possibilities for local economic development in Orkhon Soum, Darkhan-Uul Province. This will involve the use of a carefully selected collection of primary and secondary data sources to avoid information overloads and the presence of inadequate data for analysis. Secondary Data Compilation: Literature, government reports, and industry publications on the socio-economic background of Orkhon soum available with respect to setting the context and developing trends. Primary Data Collection: Semi-structured interviews and distribution of structured questionnaires will be carried out among the residents and stakeholders of the area. This procedure will capture the qualitative aspect of a more in-depth viewpoint and the quantitative data of the local view and priorities. It also integrates with primary data and insights of context through secondary sources. It is applicable with both qualitative and quantitative means of data analysis. I seek from these patterns, draw conclusions, and recommend to the local economic development.

II. LITERATURE REVIEW

2.1 From Regional to Local Economic Development

The concept of local economic development (LED) is key in shaping the futures of local communities, especially in places that face the challenges of globalization and changing economic landscapes. Orkhon soum in Mongolia's Darkhan-Uul province is a perfect example for studying LED's potential. This place has unique socio-economic features and resources that haven't been fully tapped into yet. This thesis will explore LED in Orkhon soum, based on the idea that targeted local efforts can really boost economic growth and development.

Economic development can simply be defined as how a nation improves its economic, political, and social standards for the people. It encompasses a wide array of activities and policies for the betterment of the economy, poverty alleviation, and the general welfare of the people. Although the increase in the nation's gross domestic product (GDP) is always used to measure economic development, the definition also incorporates the rise in education, life expectancy, and income equality (Shahor, 2015).

Several key factors are central to driving economic development; each works through unique channels in contributing toward overall welfare in terms of the economy, politics, and society of a nation:

In the course of economic development, human capital in the form of education and health is significant, as it acts as the propulsion of technological progress and growth (Galor and Tsiddon, 1997; Dorokhov, 2021). Technological improvement, on the other hand, is significant in aiding industries and productivity (Dai, Shen, and Guo, 2021). Other substantial institutions and legal systems are those supporting finance and business, which go a long way to help the economy's growth by enhancing investments and utilization of resources (Levine, 1999).

These all combine in a highly complex manner to reflect the country's economic growth, showing the need for an all-inclusive strategy that can address different aspects of development in the systematic collaboration for continued growth.

Regional development and economy: The concept that regional development draws attention to the regional, rather than national, level to resolve individual challenges and capitalize on respective

opportunities that various regions can offer can additionally be supported by Dale (2000) in "Regional Development Programmes". According to Dale, a regional development program presents a mechanism of assistance and support frequently initiated and funded by governments and donor establishments in developing countries to improve the functioning of the government agency and works on physical and social infrastructure development, business and peoples' support, and application of land use and other spatial regulations. Dale argues that regional development programs can be made more efficient through a more flexible, people-centered approach based in innovation, network building, and institutional engineering, stressing the need for a personalized approach in unique regions that can be achieved through decentralized and adaptable organizational structures.

Regional development and economics focus on the economic performance, structure, and evolution of regions. A region, in this context, can be defined in various ways-ranging from a small area within a country to large areas spanning multiple countries-based on geographical, administrative, or functional criteria (Guo, 1996).

Saleh et al. (2020) believe that regional development involves extensive concepts that revolve around the growth of economics and culture, improved living conditions, and the sustainability of resources within the different geographic areas of a region.

According to Guo (1996), regional economics is a field that studies the determination of production and the distribution of populations in a national economy but mainly focuses on the principles and dynamics of development in specific areas with unique geographic and political characteristics, for example, border regions. It is seen as an engine that propels national economic development, emphasizing the vitality of sound monetary policy formulation and strategies anchored on regional economic analysis (Jiu-we, 2001).

It is equally critical in national economic development by allowing an equable division of labor within its regions and, therefore, acting as a vital source of impetus for the country's economic growth. Computer simulations for understanding the evolution of regional economies are further supported in this context (Guobin, 2005). Moreover, Regional Economics is taken as an answer to the ever-increasing trend towards regionalism in the international economy, in which regional blocks are encouraged as a means of integrating into the global economic system; hence, it provides an alternative to the conventional international monetary system (Lorenz, 1989).

Regional development strategies are essential for uplifting the economic performance, structural adjustments, and general growth of the given geographical areas. In general, it is outlined by various approaches, from the general aim of fostering sustainable socio-ecological and economic growth: The concept of Regional Development Strategy. Kostyrko (2023) underlines the comprehensive action programs, utilizing the potential of resources, local initiatives, promising development avenues, and interregional collaboration toward enhancing competition on the national and international levels.

Mathur (1999) puts forth an entrepreneurship-based human capital strategy that interlinks workplace training, capital, and R&D investments with innovations under a coherent policy framework to gain economic efficiency and development.

Gambarotto and Maggioni (1998) advocate the ecological point of view and the use of dynamic models of population ecology for the evaluation of regional industrial growth and carrying capacity to orient targeted public authority interventions. Ajala (2008) strongly supports that tourism development is an exception within the development of a region and significantly uses both natural and cultural resources for economic diversification and growth to take place. In the same line, Lobkova, Lobkov, and Mehta (2021) central to the notion of strategic planning for regional development through a systematic approach to state management that involves forecasting, risk assessment, and tool development for prediction, guarantying regional sustainability and economic security.

Territorial policy is a constitution of the economic landscape. It encompasses spatial planning, investment in infrastructure, sectoral strategies, and community mobilization for balanced and sustainable development (Trouvé, Berriet-Solliec, and Déprés, 2007). The level of regional success in development and economic prosperity brought about by consistency in LED activities, such as business development and infrastructure improvement, with territorial policies, is very high.

It addresses regional imbalances through the maximization of local potentials and the promotion of integrated growth to achieve targets such as a reduced level of socio-economic disparities (Barca, 2009), sustainable development (OECD, 2019), increased competitiveness (Rodríguez-Pose, 2018), improving connectivity (ESPON, 2017), and social inclusion (European Commission, 2020). Spatial planning, capacity building, public-private partnership, research, and innovation promotion tools are used. These may be implemented through national and local governments, the

private sector, the academy, and community organizations in the course of the policy being implemented and successful. National governments give the policy direction, with the regional and local authorities responsible for adapting the strategies to be appropriate at the local level (Pike et al., 2017). Job creation and innovation are driven by the private sector, expertise from academic and research institutions, and inclusiveness in needs by community organizations, and the EU context, international bodies provide the necessary funding and expertise (European Commission, 2020). This comprehensive approach ensures that territorial policies are responsive to local needs and strengths in achieving sustainable and inclusive regional development.

2.1.1. Key issues of Local economic development

Local economic development (LED) focuses on economic growth and development initiatives at the local or municipal level. LED is defined in various ways across academic discourse.

A territorial approach to local development considers the specific characteristics, needs, and challenges of a given geographical area. This approach emphasizes community involvement, sustainability, and flexibility in planning and implementing development activities. The territorial approach of LED ensures the integration of local assets, resources, and conditions for effective development (Colletis-Wahl et al., 2005).

By definition, LED with its territorial approach not only targets specific geographic areas but also contributes to broader regional development. Recognizing the uniqueness of local territories, LED initiatives can be incorporated into regional strategies, fostering coordinated development efforts that include both smaller localities and the larger regional context. This interconnected approach facilitates a seamless transition from local to broader regional frameworks, promoting holistic and sustainable economic growth across different scales (Lundberg and Johanson, 2010).

Development Strategies are comprehensive plans that outline the approach, goals, and actions for fostering economic, social, and infrastructural growth within a region. These strategies guide decision-making and resource allocation. According to the Endogenous Growth Theory, regional development strategies should prioritize fostering innovation, education, and human capital to achieve sustainable economic growth from within (Martin and Sunley, 1998).

According to Sankaran (2013), LED involves collaborative efforts among government entities, private sector partners, and NGOs to improve conditions conducive to economic development and

job creation in a specific geographic area. This initiative aims to create an environment supportive of economic expansion for the public, incorporating measures such as investment incentives, infrastructural development, and the establishment of business incubators. These efforts are designed to assist budding entrepreneurs and promote the creation of job opportunities.

LED, as defined by the World Bank (n.d.), is a collaborative process involving public, private, and non-governmental sectors aimed at fostering economic growth and employment generation within specific regions. It emphasizes the importance of local actors in identifying and addressing development opportunities and challenges within their communities. LED focuses on enhancing competitiveness, promoting sustainable growth, and ensuring inclusivity by bringing together various disciplines such as physical planning, economics, and marketing. It also involves local government and private sector functions like environmental planning, business development, infrastructure provision, real estate development, and finance.

Cox and Mair (1988) go a little further and note that LED is more characterized explicitly by its activities in continuously restructuring local economies, emphasizing rivalry among places. LED, from its root dependence on local actors like local businesses and local authorities, generates an interest in undertaking LED activities. Therefore, LED activities are more oriented toward investment promotion and economic development and are more localized.

According to Blakely and Bradshaw (2002), LED is an alliance by partners at a strategic level in the public, business, and non-governmental sectors to ensure specific conditions that can set the stage for economic expansion and job creation. Pike, Andy, Rodríguez-Pose, Andrés, and Tomaney, John (2011) have defined LED as a multi-stakeholder process, using an approach in the public, private, and community sectors to enhance competitiveness and increase sustainable development within a local territory.

In my perspective, that which comes out very common in all these definitions is that LED involves a process of collaboration among different stakeholders with interest, particularly in the public sector, private sector, and non-governmental organizations, in a strategic manner to stimulate economic growth as well as the creation of employment opportunities in a local area. That is, to leverage the local resources towards competitiveness and sustainability in addition to being inclusive and addressing the local needs of the region. This encompasses planning, economic strategies, marketing, and development activities.

By the OECD (2006) LED is seen as a way to identify and utilize local resources and strengths to help create economic growth and ensure social stability. The OECD emphasizes the importance of strategies that are specific to the local context, including leveraging local assets, skills, and innovations. The Local Economic and Employment Development (LEED, n.d.) Programme of the OECD suggests that LED involves activities and processes that help to improve the economic well-being and quality of life for a community by creating jobs and leveraging the unique strengths of each community.

Rodríguez-Pose and Tijaja (2012) describe LED as initiatives or policies aimed at reducing imbalances and creating employment opportunities in particular territories, through the mobilization of both endogenous and exogenous resources.

Local-level economic development strategies, according to Parilla and Liu (2018), are essential because they customize incentives to the way local labor markets and industries demand or need them. The strategies will lessen the current economic challenge and be best in the sectors that improve local strengths and productivity to promote sustained growth.

As underscored by both the OECD and Rodríguez-Pose and Tijaja, the fundamental principles of LED are to ensure that the approach is strategic in harnessing the local resources and strengths for effective fostering of economic growth and betterment in social stability. The OECD concentrates on human capital-based regional policies and emphasizes adapted strategies to local contexts to optimize assets, skills, and community-based innovations. On the other hand, Rodríguez-Pose and Tijaja emphasize the local necessity of mobilizing both local (endogenous) and external (exogenous) resources for job creation and reduction of imbalances. If anything, these views share the concept of underscoring the particularity and potential of local communities for economic development and employment generation.

For my analysis, the World Bank's definition of LED provides an incredibly comprehensive explanation of the concept, emphasizing collective efforts being made among the different sectors and the indispensable role played by local actors to overcome the various kinds of regional development challenges. Critical aspects of LED covered by this definition include improved competitiveness, sustainable and inclusive growth, and the integration of many disciplines across planning to finance, thus capturing the multi-disciplinary nature of LED in a definition relevant to practical and academic application.

When we refer to “local” in the LED context, it denotes a focus on smaller geographic areas where stakeholders are intimately familiar with local problems and needs (Rogerson, 2002). Smaller areas are conducive to consensus-building due to fewer stakeholders with similar preferences. As areas expand, the complexity of stakeholder dynamics increases, making it challenging to reach agreements (Özcan, 2000). The emphasis on smaller territories in LED facilitates coordination, making it easier to agree on and implement LED strategies (Innes and Booher, 1999).

Some theories highlight the importance of community engagement and participation in local development. “Bottom-up” and participatory development theories indicate the positive sum effect of involving local societies in decision-making. Community engagement accrues positively to the results of economic development. The involvement of people in all these initiatives would, in turn, create a sense of ownership and hence responsibility for the same to the residents and therefore more sustainable initiatives. This social capital builds trust and cooperation that eventually results in economic development from investment and job creation environment (Bau, 2016).

From an applied point of view, the issue is of improved quality of projects since the community brings along local knowledge, and the initiatives implemented can assure them that the particular initiative was really aimed at providing solutions to certain economic challenges (Dresser, 2017). In addition, it enhances social cohesion, inclusiveness, lessening of disparities, and distribution of benefits more proportionately (Ojha et al., 2016).

In summary, community participation in local decision-making and implementation processes shows that every project implemented involves the interests and the priorities of the community at large. Thus, great successes are registered towards inclusiveness and sustainable local development.

2.1.2. Key actors of LED

LED relies on a collaborative effort from diverse stakeholders to boost the economic vitality and competitiveness of a community, ensuring the well-being of its members.

Key actors in this process include local governments that set enabling policy and infrastructure for LED (Blakely and Leigh, 2010); business and entrepreneurial activity, instigating innovation and job creation (Porter, 1995); and community-based organizations that ensure involvement (Vazquez-Barquero, 2002). Financial institutions provide vital capital (Pike, Rodriguez-Pose, and

Tomaney, 2011), whereas educational institutions offer workforce development and innovation (Etzkowitz and Leydesdorff, 2000).

Media is part of the support in propagating LED efforts (Servaes, 1999), while development agencies come in through funding and networking (Rodriguez-Pose and Tijmstra, 2009). Core participants, on the other hand, involve the citizens themselves in different forms of engagement that underpin the legitimacy and sustainability of the initiatives (Mathur, 1999). That collective approach, integrating resources, expertise, and diverse perspectives, is fundamental to designing and deploying LED strategies that genuinely meet a community's distinctive needs and strengths.

2.1.3. LED tools

LED is driven by an equal level and shared approach that involves financial packaging, expanded infrastructure, workforce enhancement programs, technology and innovation support, community involvement, sustainability efforts, and marketing strategies.

Financial incentives are one of the main ingredients of LED. It gives the means to attract and hold business, stimulate investment, and generate jobs within a given community. Guiso, Sapienza, and Zingales (2002) emphasize the importance of local financial development over the rest of the economy, especially as an essential requisite for entrepreneurship and entry of new firms and for general growth. Their results highlight the case that whether there exists an integrated financial market or not, it is an excellent local financial environment that is key to the activity of a region.

Tax incentives and subsidies are financial assistance provided to businesses to encourage economic activities such as investment, job creation, and research and development. These incentives can take the form of tax credits, cash grants, or other financial aid. They are often targeted at specific industries or projects that are deemed beneficial for local economic growth and development (White, Bingham, and Hill, 2012).

The effectiveness of local economic development incentives, including their impact on job creation, private capital investment, and the overall economic growth of jurisdictions, is an area of ongoing research and debate. Some studies have raised questions about the net economic growth resulting from these incentives and whether they justify the costs in terms of expenditures and forgone tax revenue (Pollard, 2014).

Infrastructure development remains one of the critical aspects of local economic development through growing the attractiveness of a region through strategic investments. The development and improvement of such infrastructures as roads, bridges, public transit, and ports supporting transport could contribute to accessibility and mobility for a region (Revoltella et al., 2016). Equally, essential utilities such as high-speed internet, water, and energy access reinforce the location of a place by high-tech firms and industries depending on the reliable services of utilities. All these improvements work together to create an enabling environment for economic growth and development.

Workforce development and innovation are absolutely crucial when it comes to giving local economies a leg-up. Think about it: by rolling out solid training programs, apprenticeships, and internships, we're basically crafting a skilled workforce that's super attractive to businesses. And let's not forget about pumping up innovation-things like business incubators, accelerators, and sweet R&D incentives can really help startups blossom and lure tech firms into the mix (Antonelli and Crespi, 2021). When we put all these pieces together, we're not just talking about creating jobs; we're talking about stimulating economic growth and fostering a community that truly thrives.

Lukkarinen (2005) discusses, community engagement and partnership are the key entry points in local economic development (LED) to the involvement of a diversity of stakeholders in their sustainable growth and development activities. The participation of the communities and the partnerships developed can bring mutual understanding, action, and significant positive impacts on the local economy.

Though community involvement is advocated under an empowerment agenda, it can reproduce or intensify problematic social relations. From the complexities of defining "community" to the representation of local groups, there is a warranted for the critical understanding and guidelines of best practices for practical community engagement efforts (Dempsey, 2010).

The involvement of the private sector and the community is increasingly seen as essential for successful regeneration and LED. Partnerships in LED involve complex networks that usually require government leadership at all levels, highlighting the importance of co-finance and collaboration for effective development initiatives (Hutchinson and Foley, 1994).

Hodge and Greve (2007) further assert that the local economic development of LED through public-private partnerships (PPP) has been outstanding. The apparent reason is to join the strength of the government and the private sector to improve public infrastructure and service delivery, hence fostering economic growth. Such type of collaboration effectively faces economic challenges as they use local assets and stimulate investment; therefore, they ultimately improve community life.

The betterment of LED through infrastructure, innovation, sustainability, and community services is highly influenced by PPPs. PPPs accelerate investment in transportation, utilities, and broadband, enhancing local business support and economic competitiveness (Yescombe, 2007). They also drive technological advances by establishing tech parks and innovation hubs, which develop employment opportunities and diversify the economic base (Hodge and Greve, 2007). Sustainable development benefits from PPPs through renewable energy and green projects that leverage private capital for environmentally friendly growth (Estache and Fay, 2007). Additionally, PPPs are crucial in delivering social services such as affordable housing and healthcare, which are necessary for the welfare and attractiveness of the community (Roehrich, Lewis, and George, 2014).

2.1.4. Government policies and LED

Government policies drive local economic development by guiding investments, providing incentives for businesses such as tax breaks, and investing in infrastructure to enhance connectivity and competitiveness. Streamlined regulations and transparent governance reduce barriers for businesses, while policies focused on education and skill development contribute to creating a qualified workforce (Steinnes, 1990). Additionally, support for research, development, and technology adoption fosters innovation, and an emphasis on sustainable practices ensures long-term economic viability (Borrás and Edquist, 2013). Encouraging collaboration among local entities enhances innovation and problem-solving. In summary, well-designed government policies in these areas lead to sustainable, inclusive, and resilient local economic development.

Clear policy guidance, institutional capacity-building, inter-sectoral collaboration, political support, and empowerment of beneficiaries are crucial for municipalities to effectively promote an LED strategy. These factors are essential for municipalities to promote social and economic development effectively (Parker and Costa, 2021).

This is more so in local municipalities where they mobilize local and indigenous economic potential. A focus on entrepreneurship within local economic policies has the potential for development in communities that have been besieged by the challenges of unemployment, poverty, and inequality (Madzivhandila and Musara, 2020).

Local Procurement Policies play a strategic role in LED by prioritizing the purchase of goods and services from local suppliers to stimulate economic growth within a community (Adjei-Bamfo et al, 2019).

Local procurement, when governments and businesses spend at home, means all the money invested in and earned by our communities is more likely to stick around. This grows the local economy and creates jobs. In turn, these multipliers, local to the economy, circulate and amplify through the local spending of the economy, furthering development and opportunity for local businesses, hence making new hires to meet the new demand (Sonenshein, 1996; Schmitz, 2005).

In addition, such policies may support small, women, and minority-owned businesses that would contribute to the equity of income and inclusive development (Mor Barak, 2017), setting up a coherent line of sustainable community development.

2.1.5. Globalization, trade policies and LED

Globalization and trade policies bring both positive and negative effects to the local economy of rural and less developed regions (Shehu, 2018). The positive impact relates to higher access to the market, technology transfer, and income generation. Meanwhile, it can lead to specific problems like competition, income inequality, and cultural impact. In mitigation, the strategies generally include support through diversification policies, investment in education and skills, small business activities and promotion of sustainable practices, and initiatives towards the conservation of local cultures (Dixon 1998). It is vital to balance these elements to ensure that benefits accrued from globalization translate into sustainable, inclusive, and resilient development for all the stakeholders in the regions.

Placing into Mongolian context, it would be pertinent to mention here that according to the Asian Development Bank (2021), undertaking LED studies requires deep knowledge about unique features and challenges local and subsistence economies represent. LED is a crucial framework for inclusive growth, sustainable development, and employment generation in Mongolia. LED is

particular in its approach, with tailor-made development strategies targeting collaboration with all local stakeholders. Thus, it is very useful even in a much smaller geographical area like that of Mongolia. It is this regard in which the territorial approach in LED, locality to local territory-specific assets, resources, and conditions, takes on the foreground, especially against the backdrop of diverse landscapes and communities in Mongolia. As Mongolia focuses on regional development, LED becomes vital by integrating local initiatives into broader strategies. This coordinated approach ensures sustainable economic growth at both local and regional levels.

In summary, economic development hopes to improve the living standards of a nation through economic growth, minimization of poverty, and enhancing education and health. The LED emphasizes community collaboration in the stimulation of growth and creation of jobs through the use of local assets. Only through an LED, community participation, and good government policies will Mongolia be able to localize economic development amidst globalization. The key that would enable Mongolia to realize sustainable and inclusive growth would be strategies developed recognizing local uniqueness, fostering collaboration, and integrating into regional strategy.

2.2. General overview of Mongolia

2.2.1 Territory and administrative units

Mongolia is a landlocked country sandwiched between Russia to the north and China to the south, east, and west, making it the world's second-largest landlocked country after Kazakhstan (Figure 1).

Figure 1: Map of Mongolia
Source: Wikipedia, (n.d)

By land, territory ranked 19th largest in the world, yet with a population of just 3.4 million people, it is the world's most sparsely populated independent country. For much of its existence, its inhabitants were pastoral nomads, herding livestock in seasonal cycles between summer and winter pastures.

The natural geography of Mongolia characterizes the wide-ranging plateaus, mountains, and the famous Gobi Desert. Mongolia has an extreme continental climatic condition with four seasons of the year. It consists of long, severe, cold winters and short, hot summers. This kind of harsh climate seriously affects both the ecosystem of the country and the way of life of the people living here.

Moreover, the population of Mongolia features a very significant share of representatives of different ethnic groups, each having its traditions and territories. Mongolia has 20 ethnic groups, most of which are Khalkh. For example, the Kazakh ethnic minority is predominantly concentrated in the western part of the country, near the border with Kazakhstan. Other ethnic groups, such as the Khalkh Mongols, Buryats, and Oirats, have their own distinct cultural regions within Mongolia.

Mongolia is generally divided into four macro-regions: Western region, Central region, Khangai region and Eastern region (Figure 2).

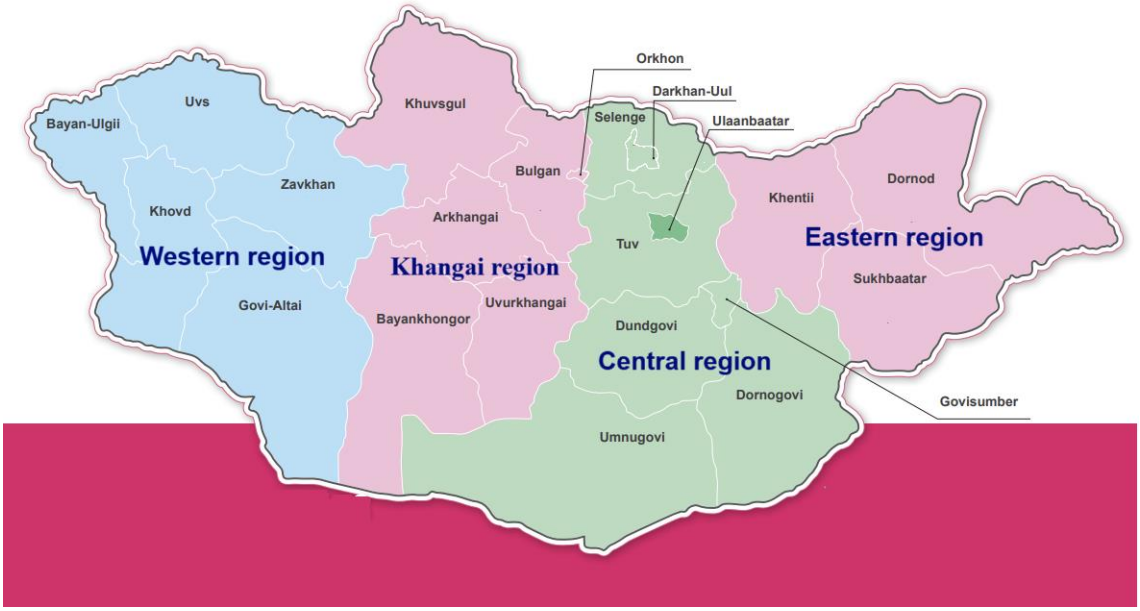

Figure 2: Regional map of Mongolia

Source: Vision-2050

These regions can be divided according to both geographic and cultural features. The western region has mountains and has a number of Kazakh ethnic people in it. The central region is where the capital city, Ulaanbaatar, is located and its vicinity. The Khangai region includes very steep mountains and calm, placid lakes. It represents the rich cultural heritage and relevance of Khangai to national identity. It is located eastward, and the people inhabiting it are mainly the grassy step ethnic groups.

Figure 3 illustrates the administrative map of Mongolia, showing its 21 aimags and the capital city.

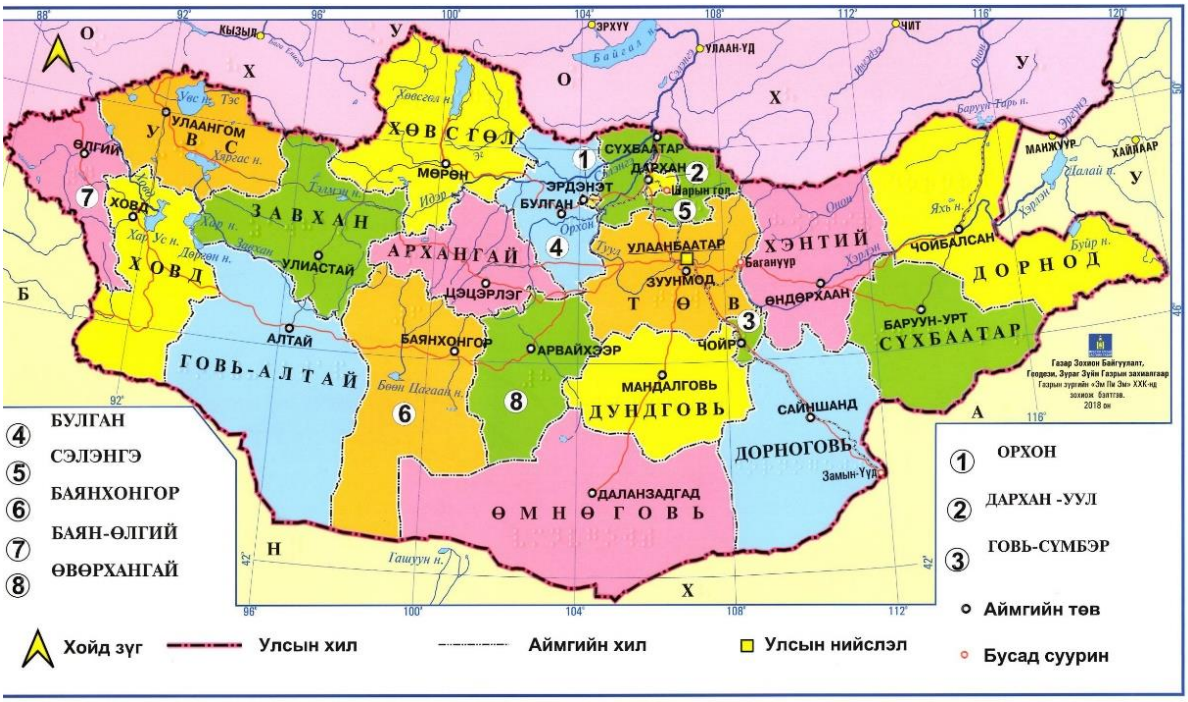

Figure 3: Administrative map of Mongolia

Source: Agency of Land Administration and Management, Geodesy and Cartography, 2018

Mongolia is a unitary state. In terms of administrative unit, Mongolia is divided into 21 aimags (provinces) and the capital city, Ulaanbaatar. Aimags are divided into 330 soums (sub-provinces) which are further divided into 1645 bags (the smallest administrative unit under sub-provinces).

The expansive terrain of Mongolia encompasses 1564.1 thousand square kilometers and Table 1 shows territory of Mongolia, categorizing it by region, aimags and the Capital.

Table 1: Territory of Mongolia by Region, Aimags, and the Capital, 2024 (in 1,000 km²)

Aimags and the Capital	Territory 1000 km2
Total	**1564.1**
Aimags total	**1559.4**
Western region	**415.3**
Bayan-Ulgii	45.7
Govi-Altai	141.4
Zavkhan	82.5
Uvs	69.6
Khovd	76.1
Khangai region	**384.3**
Arkhangai	55.3
Bayankhongor	116
Bulgan	48.7
Orkhon	0.8
Uvurkhangai	62.9
Khuvsgul	100.6
Central region	**473.6**
Govisumber	5.5
Darkhan-Uul	3.3
Dornogovi	109.5
Dundgovi	74.7
Umnugovi	165.4
Selenge	41.2
Tuv	74
Eastern region	**286.2**
Dornod	123.6
Sukhbaatar	82.3
Khentii	80.3
Ulaanbaatar /capital/	**4.7**

Source: Own edition based on Agency of Land Administration and Management, Geodesy and Cartography, 2024

The capital city Ulaanbaatar is divided into 9 districts which are comprised of 204 khoroos (sub-district).

Table 2 provides a comprehensive overview of the administrative divisions within aimags, and the Capital including the count of soums and districts, along with the enumeration of bags and khoroos.

Table 2: Number of Soums and Districts, Bags and Khoroos in Aimags and the Capital, 2024

Aimags and the Capital	Soums and districts number	Bags and khoroos number
Total	**339**	**1849**
Aimags total	**330**	**1645**
Western region	**91**	**488**
Bayan-Ulgii	13	100
Govi-Altai	18	88
Zavkhan	24	116
Uvs	19	93
Khovd	17	91
Khangai region	**99**	**552**
Arkhangai	19	101
Bayankhongor	20	105
Bulgan	16	76
Orkhon	2	29
Uvurkhangai	19	112
Khuvsgul	23	129
Central region	**95**	**382**
Govisumber	3	10
Darkhan-Uul	4	26
Dornogovi	14	65
Dundgovi	15	68
Umnugovi	15	59
Selenge	17	57
Tuv	27	97
Eastern region	**45**	**223**
Dornod	14	67
Sukhbaatar	13	67
Khenti	18	89
Ulaanbaatar	**9**	**204**

Source: Own edition based on Agency of Land Administration and Management, Geodesy and Cartography, 2024

Typically, the administrative units known as “soums” cover an average area of 5,000 square kilometers and house around 3,500 individuals, resulting in an average population density of 0.7 inhabitants per square kilometer. The administrative hubs of these soums, referred to as soum centers, generally have an approximate population of 1,300 residents, as per data from the National Statistics Office available on the 1212.mn database.

Table 3 meticulously details the population density across regions, aimags, and the Capital, offering a comprehensive examination of the demographic distribution in these distinct geographical entities.

Table 3: Population Density in Mongolia by Region, Aimags, and the Capital, 2018-2022 (person/km²)

Aimags and the Capital	Population density /person per km²)/				
	2018	2019	2020	2021	2022
Total	**2.1**	**2.1**	**2.1**	**2.2**	**2.2**
Aimags total	**1.1**	**1.1**	**1.1**	**1.1**	**1.2**
Western region	**1.0**	**1.0**	**1.0**	**1.0**	**1.0**
Bayan-Ulgii	2.3	2.4	2.4	2.5	2.5
Govi-Altai	0.4	0.4	0.4	0.4	0.4
Zavkhan	0.9	0.9	0.9	0.9	0.9
Uvs	1.2	1.2	1.2	1.2	1.2
Khovd	1.2	1.2	1.2	1.2	1.2
Khangai region	**1.6**	**1.6**	**1.6**	**1.6**	**1.6**
Arkhangai	1.7	1.7	1.7	1.7	1.7
Bayankhongor	0.8	0.8	0.8	0.8	0.8
Bulgan	1.3	1.3	1.3	1.3	1.3
Orkhon	132.5	134.5	134.7	135.9	138.1
Uvurkhangai	1.9	1.9	1.8	1.8	1.9
Khuvsgul	1.3	1.3	1.3	1.4	1.4
Central region	**1.1**	**1.1**	**1.1**	**1.1**	**1.1**
Govisumber	3.2	3.3	3.3	3.3	3.4
Darkhan-Uul	32.1	32.4	32.4	32.7	33.1
Dornogovi	0.6	0.6	0.7	0.7	0.7
Dundgovi	0.6	0.6	0.6	0.6	0.6
Umnugovi	0.4	0.4	0.4	0.4	0.4
Selenge	2.7	2.7	2.7	2.6	2.7
Tuv	1.3	1.3	1.3	1.3	1.3
Eastern region	**0.8**	**0.8**	**0.8**	**0.8**	**0.8**
Dornod	0.7	0.7	0.7	0.7	0.7
Sukhbaatar	0.8	0.8	0.8	0.8	0.8
Khenti	1.0	1.0	1.0	1.0	1.0
Ulaanbaatar	**317.3**	**327.6**	**339.8**	**348.8**	**354.3**

Source: Own edition based on Mongolian statistical information service: https://www.1212.mn, 2024

In 2022, the population density was 2.2 persons per square kilometers at the national level and 354.3 persons per square kilometers in Ulaanbaatar city. Approximately half of the population lives in the capital, Ulaanbaatar. Also, Darkhan-Uul and Erdenet are among the major cities with large population concentrations which a population density is 33.1 and 138.1 persons per square kilometers.

According to the Constitution of Mongolia (1992, as amended in 2023), Mongolia has a parliamentary republic. The President is the head of the country, and the head of Government is the Prime Minister. The current Constitution of Mongolia was adopted in 1992. It established the

country as a sovereign democratic republic with a high degree of human rights protection. The broad civil rights protect Mongolian citizens, including the rights to free speech and religion, as well as the rights of assembly and petition. That Constitution has undergone several amendments that have, among other things, significantly helped better separation of powers and enhanced the judiciary's role.

The President of Mongolia is elected for a single six-year term (as of the most recent constitutional amendments) and serves as the head of state, commander-in-chief of the armed forces, and symbol of national unity. The President has the authority to veto legislation, propose laws, and represent Mongolia in international relations.

The Prime Minister is the head of the State Great Khural (parliament), and has to carry out the state policies by the laws, ensuring that justice is implemented. The Prime Minister heads the majority party or a coalition in the State Great Khural.

The country is unicameral; it comprises 76 members elected through citizens' universal suffrage to serve a four-year term. The State Great Khural exercises legislative power and adopts laws, approves the state budget, and sanctions treaties with foreign countries. The State Great Khural also has an essential function in the right to prescribe the government's policy direction, and it also has the right to dismiss and appoint, through the recommendation by the Prime Minister, the Prime Minister, and other members of the Government.

Mongolia is one such country that works in a multiparty system. However, for the last many decades, there have been two dominating forces in Mongolian politics: the Mongolian People's Party (MPP) and the Democratic Party (DP). Most of the policies and political developments at the state level are decided upon through the competition of political parties, presidents, and parliaments.

The Subnational Government (SNG) takes form under the auspices of Chapter IV of the Constitution and the Law on Administrative and Territorial Units and their Governance (2006).

Illustrated in Figure 4 is a harmoniously tiered structure, encapsulating a Schematic View of Subnational Government in Mongolia (Outside Ulaanbaatar).

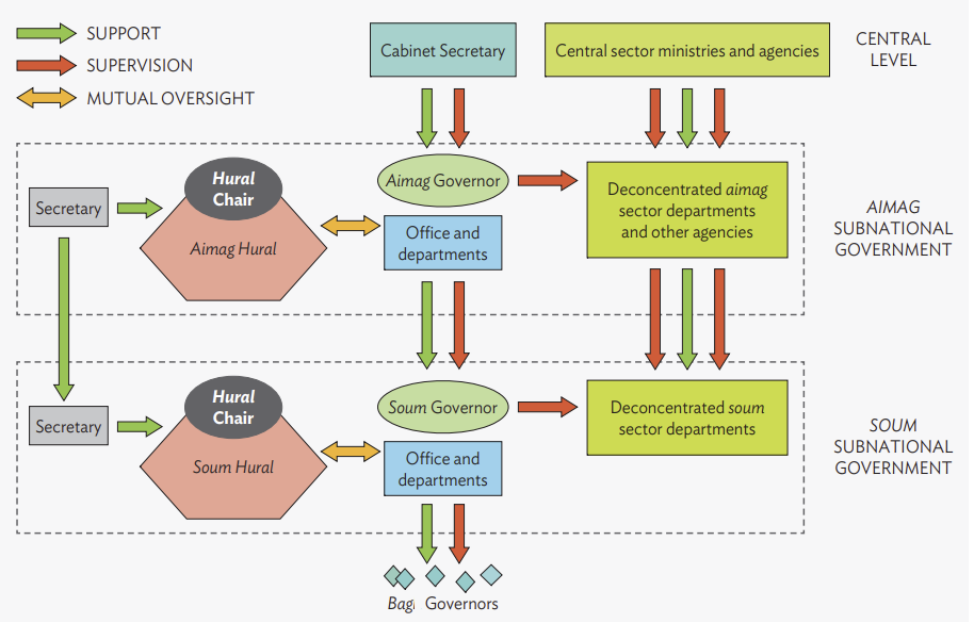

Figure 4: Schematic View of Subnational Government in Mongolia (Outside Ulaanbaatar)
Source: Asian Development Bank, 2021

The two levels of the institutional setup each follow a dual structure seen in other post-socialist states:

I. A legislative assembly (hural), supported by a full-time secretary, and (at aimag level) other supporting staff under the secretary. Hurals serve a four-year term.

II. An executive branch headed by a governor and a deputy governor. These officials are indirectly elected and serve for the same four-year term as the hurals. A list of candidates is nominated by the hural at that level and from that list a selection is made by the prime minister for aimag governors and by the aimag governor for soum governors (Asian Development Bank, 2021).

In principle, the Governor's Office is responsible for planning, implementation, and reporting on the delivery of local public services, while the hural is responsible for setting local policy and priorities and for monitoring and oversight of planning and implementation (Constitution and the Law on Administrative and Territorial Units and their Governance, 2006).

Mongolia is one of the countries most vulnerable to climate change; however, a temperature rise occurs at a rate of more than twice the global average. In winter, the thermometer measures temperatures from -15 to -40 degrees, and in summer, from +10 to +35 degrees. This caused more extreme climatic events, harsher winters (known locally as dzud), while summers are hotter, with

all the results on the environment and the modalities of life of Mongolian people. Climate change thus represents a significant threat to water resources, agriculture, and the ways of traditional life. Mongolia features 126 million hectares of pastureland, making it the largest continuous common grazing area in the world, followed by approximately 1 million hectares of arable land and urban regions. About 27% of this pastureland consists of forest/mountain steppes, 30% is comprised of dry steppe grasslands, and the rest includes Gobi desert steppes and deserts. Only 7% of Mongolia's agricultural land is equipped with irrigation, and forests cover 6.5% of it. The country's average altitude is 1580 meters. The highest point, Khuiten Mountain peak, reaches 4374 meters in the western part of the country, while the lowest point is the Khukh Nuur Lake depression in the east, sitting at 532 meters above sea level. The capital, Ulaanbaatar, is located at an altitude of 1350 meters (World Bank 2009a; World Bank 2003; FAO 2008).

2.2.2 Economy of Mongolia

The economic development in Mongolia has shifted predominantly to a dynamic market system based on its unique geography, the cultural heritage of the Mongolian people, and large mineral deposit finds.

Traditionally, the economy of Mongolia developed with nomadic pastoralism, where animal husbandry had held an integral part in livelihood. In the 20th century, profound changes linked with the independence of Mongolia from China in 1921 and the incoming planned economy, characterized by its Soviet influence, with an emphasis put on the development of both agriculture and industry. In 1991, with the collapse of the Soviet Union, significant reforms began in Mongolia: privatization, liberalization of trade, and transition to a market economy, despite the first shock to the economy and societal problems. The discovery of large mineral reserves spurred economic growth and became a basis for Mongolia in the early 21st century to make mining the mainstay of the economy; however, it has exposed the country to fluctuations in commodity prices on the global market.

Today, the setting of economic priorities is different; therefore, the economy set for diversification and the need for urgent issues in respect to environmental sustainability and social inequality are to be set. Reforms respecting the wide heritage in the traditions and nomadic lifestyle of Mongolia. The vibrancy of Mongolia’s economy is propelled by diverse sectors, as delineated by the Gross Domestic Product (GDP) employing the production approach.

Table 4 illuminates the multifaceted contributors to Mongolia's economic landscape, showcasing the pivotal roles played by Agriculture, Mining and Quarrying, Industry and Construction, Services, and Net Taxes on Products. This overall breakdown completely captures the dynamic nature of Mongolia's economic structure and the reliance placed upon a spectrum of sectors for sustained growth and development.

Table 4: Total GDP by sectors in Mongolia, 2019-2022 (Billion MNT)

Industry	2019	2020	2021	2022
GDP /billion MNT*/	**37,839.2**	**37,453.3**	**43,555.4**	**52,867.3**
Agriculture	4,373.6	4,856.1	5,733.3	7,003.0
Mining and quarrying	9,590.1	8,722.1	10,753.7	12,869.3
Industry and construction	4,823.9	5,154.2	5,394.7	6,697.5
Services	15,037.5	15,165.0	17,267.5	20,544.2
Net taxes on products	4,014.1	3,555.9	4,406.2	5,753.3

*Note: * 1 USD = 3,376.10 MNT and 1 EUR = 3,626.94 MNT (April 12, 2024.)*

Source: Own edition based Mongolian National statistics office, 2024

According to the initial assessment for the year 2022, Mongolia's the nominal GDP amounted to MNT 52.9 trillion, reflecting a notable uptick of MNT 9.3 trillion (21.4%) when contrasted with the preceding year. This surge was primarily driven by a MNT 2.1 trillion (19.7%) rise in the value added by the mining and quarrying sector, coupled with a MNT 1.3 trillion (30.6%) increase in net taxes on products compared to the previous year.

Concerning the distribution of value-added contributions to GDP of Mongolia in 2022, the service sector comprised 46.8%, the mining and quarrying sector held a share of 25.1%, the agriculture sector accounted for 13.1%, and the industry and construction sector contributed 15.1%, as illustrated in Figure 5.

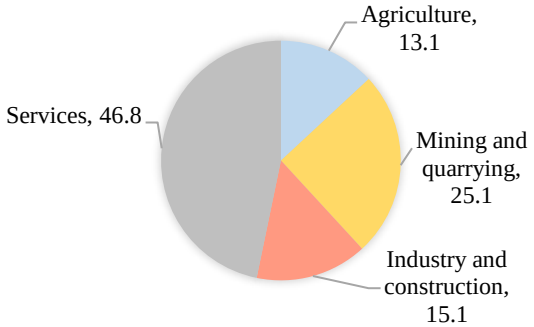

Figure 5: Composition of GDP by Share to Total in Mongolia, 2022 (%)
Source: Own edition based on Mongolian National statistics office, 2024

***Services**:* Primarily, the service sector has increased the status of Mongolia's economy, motivated by increased urbanization, consumer demand, and infrastructure development. This general group includes trade, transportation, financial, tourism, and telecommunications services, among others. This may show that the share of services in Mongolia's total GDP is around 47%. The services sector is, then, one of the biggest employers, as most of the labor force is involved in this area.

Tourism in Mongolia has been one of the emerging essential sectors contributing to Mongolian economic development and international promotion and awareness of Mongolia. The vast landscapes, rich cultural heritage, and unchanged centuries-old way of living appeal equally to adventure travelers, cultural enthusiasts, and nature lovers. Table 5 illustrates the significant fluctuations and resilience of Mongolia's tourism sector from 2019 to 2023, reflecting the impact of global events and its remarkable recovery.

Table 5: Number of tourists in Mongolia, 2019-2023 (person)

Year	2019	2020	2021	2022	2023
Tourist number	636 960	66 940	39 236	300 520	644 064

Source: Own edition, based on Mongolian National statistics office, 2024

Tourism in Mongolia can be described, to say the least, as a rollercoaster in the last couple of years that is, between 2019 and 2023. It all started with 636,960 visitors in 2019 due to her vast landscapes, rich culture, and nomadic lifestyle. Nevertheless, the number of passengers transiting through its gates in 2020 amounted to as few as 66,940 due to a worldwide pandemic. The reasons for such a decrease were travel restrictions and general health impacts. Continuing the relatively slow recovery from the pandemic, tourist numbers improved slightly further in 2021 to reach 39,236. So strong is the rebound that it is projected that the number of visitors will surge to 300,520 by 2022, helped in no small part by increased confidence toward traveling and proactive steps by Mongolia to ensure the safety of its visiting populace. This growth path in the sector was observed to be further felt in 2023 when numbers grew to 644,064, nearly restoring the pre-pandemic numbers.

This has, in part, occasioned exponential growth in the telecommunications sector, primarily driven by increasing mobile penetration and, of course, internet usage. As of the latest data, mobile phone penetration rates are high, with a significant portion of the population having access to the internet.

Information technology is coming up as an essential focus of growth potential. Government initiatives aimed at innovating digital infrastructure and e-governance. This public service was named “E-Mongolia”, and it was officially launched in October 2020. E-Mongolia is the name given to the platform that serves as the Mongolia government’s delivery of digital services to the public, offering various services directly from the government: most in need the public - online service for filing taxes and obtaining services related to health and education. It aims to make these services quicker and easier to use, saving time and reducing physical paperwork. E-Mongolia has made reaching the people very easy for the government since it was launched, taking immense leaps toward the digitization of Mongolia.

The country’s financial services sector of Mongolia has grown commensurately with the rise in the country’s economy through banking, insurance, capital markets, and non-banking financial institutions. The emerging market economy of Mongolia sees vibrancy in the credit expansion registered by its banking sector, which sometimes registers double-digit annual growth. Meanwhile, the insurance industry much smaller too has been growing; more and more Mongolians are increasingly recognizing the value of insurance, especially life insurance, which has been quite remarkable.

Mongolia has a very well-reformed and developed education system that has undergone large-scale reforms over the years, intending to improve access, quality, and relevance to the global job market. The Mongolian education structure comprises scholastic, primary, secondary, and higher education levels, together with vocational training centers. Mongolia has over 65 universities and colleges combined, consisting of both private and public institutions. The number of people engaging in tertiary studies is also increasing, symbolizing growing demand for tertiary qualifications. The country has a high literacy rate, estimated at 98%.

The government of Mongolia applies a mix of public and private provision of health care to its people. The country’s government is in the course of carrying out reforms that would boost accessibility, quality, and affordability of the services. Despite the improved ratio of health facilities to the population, disparities abound between the urban and rural settings.

***Industry**:* The industry sector in Mongolia comprises mining, manufacturing, and construction. Among these, mining has majorly contributed to the share of the industry sector of GDP, especially

extraction, with minerals like coal, copper, and gold being the major contributors. Manufacturing, though more minor by comparison, does form the section. The industry sector's share of Mongolia's GDP is estimated to be around 40%.

The contribution of the manufacturing sector to GDP has been relatively subdued, remaining stagnant at around 5-6% in the last few years. The major products include a great emphasis on food items, especially those dealing with the processing of dairy products, meat processing, and alcoholic beverages, which capitalizes on the rich tradition in the country related to agricultural activities. Mongolia boasts of being one of the world's largest producers of raw cashmere in the textile sector. Besides, the construction materials, including cement and bricks, have made their way through with the escalation of the boom of the construction activities within the urban lands of the country. These include Mongolia's natural and agricultural resources, which are put to use. They are counted among the ones that play a very vital role in the economy of the nation.

The energy sector in Mongolia is predominantly based on coal for the generation of electricity and the production of heat. The tide is shifting increasingly toward renewable sources, though, because government policies focus on boosting renewable energy in the energy mix. Solar and wind projects are growing under government plans to increase renewables in the country's energy mix.

Agriculture*:* The agriculture of Mongolia is believed to include food production and cropping, which are carried out in the country, and it has relatively less contribution to the GDP of Mongolia in comparison to any other sector. Though this could differ, the general estimation is about 13% of the gross domestic product countrywide. Agriculture and livestock herding have taken the central point of the economy for quite a long time, primarily for rural communities in Mongolia. Mongolian traditional way of life is defined as the typical nomadic herding of horses, camels, goats, sheep, and cattle. All the livestock products are meat, wool, and cashmere, which are mainly exported from the country.

Mongolia has 71 million livestock which means almost 20 times higher than the population. The sector faces several challenges, including overgrazing, which contributes to desertification, and vulnerability to extreme weather conditions such as dzud (harsh winters). Climate change exacerbates these challenges, affecting pastureland and water availability.

Agriculture is the main source of employment for rural people and is central to the livelihoods and culture of rural families. Agriculture provides employment to an estimated 25.5% of the population, and as of 2022, 13.0% of its gross domestic product (GDP). The livestock sector is 11.6%, the agricultural sector (plant production) is 1.3%, and other agricultural sectors are 0.1% (Figure 6).

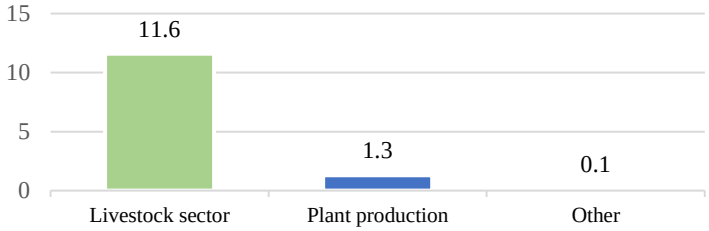

Figure 6: The share of Agricultural sector in Mongolia's GDP, 2022 (%)
Source: Own edition, based on Mongolian National statistics office, 2024

Livestock products constitute a significant portion of Mongolia's agricultural output, including meat, milk, wool, and cashmere. Mongolia is one of the greatest producers of raw cashmere in the world. Very little of Mongolia's land is even arable, mainly located in the northern regions of the country. The seasons for growing are short, with an imminent danger of frost, which in basic terms limits most of the country's crop production. The primary crop of the region is wheat, followed by barley, potatoes, vegetables, and forage crops for livestock. Wheat, for instance, comes to the forefront as the major cereal crop, with all efforts channeled towards self-sufficiency and reducing dependency on imports. Figure 7 illustrates the Livestock Population and Figure 8 shows the Harvest Quantities in Mongolia.

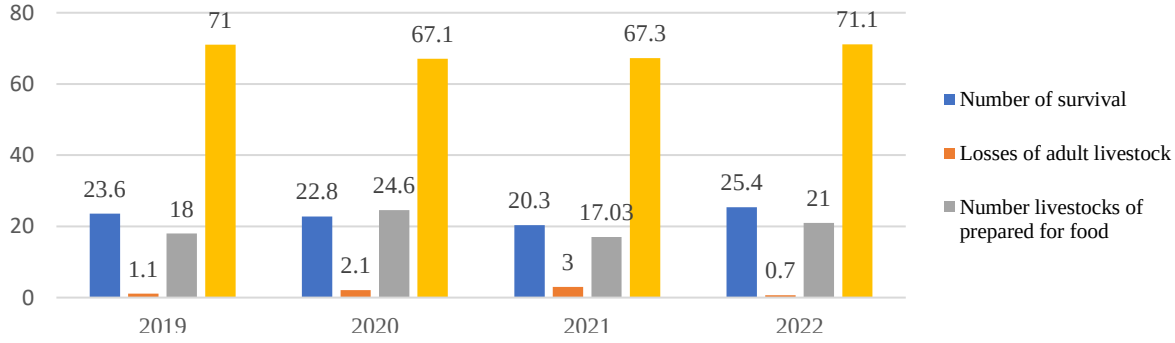

Figure 7: Number of livestock, 2019-2022 (million heads)

Note: The "number of survival" refers to the count of offspring that survive to a designated developmental stage or age out of the total number born. This metric is critical for assessing reproductive success and the health of animal populations
Source: Own edition, based on Mongolian National statistics office, 2024

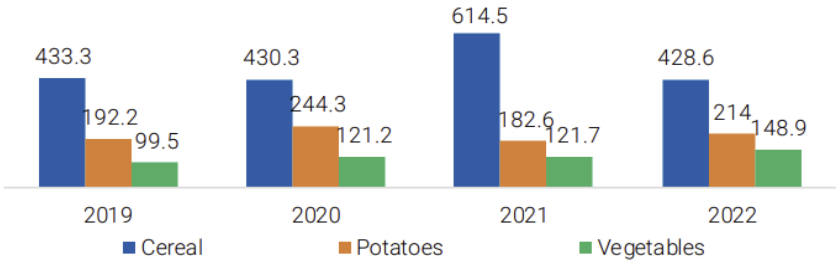

Figure 8: The amount of harvest, 2019-2022 (thousand tonnes)
Source: Mongolian National statistics office, 2023

The biggest challenge in Mongolia with climate change is the livestock herding and crop production. In 2024, Mongolia witnessed its heaviest snowfall in almost half a century when 90% of the country's areas were covered by it. In the same year, it was said Mongolia observed its coldest winter in fifty years, which caused the country to lose around five million animals and has had a significant effect on the living environment of some 300,000 people, mostly living in nomadic animal husbandry. Animals are unable to graze on the surface or depth of the snow due to temporary warming and cooling are referred to as Iron Zhud, according to the Center for Policy Studies. 58 soums of 13 aimags are in the ice or iron zhud situation. 139 soums of 17 aimags and 2 districts of the capital are in a white sludge situation. This has brought many herders to the brink of poverty, no fuel to heat the home and no food in 75% affected zhud area. For Mongolians, it was preparedness, just an underline at its worst. The continuous spring resembled winter, marked by snowfall and dying herds.

Economic Challenges: Mongolia has an economy that is heavily based on natural resources, dominated by its extractive and export activities in mineral commodities like coal, copper, and gold. Further, such dependency on plunging commodity prices and the possibility of resource depletion presents a high risk to the economy.

Economic volatility has been one of the challenges that Mongolia has been subjected to. This has emanated from the fluctuation of commodity prices due to external shocks coupled with the limited diversification of the economy. Some of the difficulties that cyclic phenomenon brings into place challenge long-term planning, fiscal stability, and sustainable economic growth. Infrastructure development and maintenance remain a significant challenge to Mongolia, especially in rural and remote parts. Potential challenges for economic growth and regional connectivity are poor urban infrastructure, inadequacy of transportation networks, limitation of electricity supply, and broadband internet accessibility, to mention just a few.

While Mongolia has, to some extent, made achievements in poverty reduction, income inequality is yet another challenge. There are dualities in urban and rural areas and even in urban centers themselves, which could indeed hold back social inclusion for economic growth. The economic activities in Mongolia that need to be carried out include mining and agriculture, which might cause deforestation, land degradation, and water pollution. It has been emphasized and considered a way to balance economic development with environmental sustainability in ensuring the well-being of the country.

Economic Opportunities: Mongolia has vast mineral resources that offer economic growth opportunities through foreign investment. It could invest in its mining sector to encourage value-added processing and expansion of related industries, providing employment and income streams. Mongolia has enormous potential for renewable energies such as wind, solar, and hydropower. The development of renewable energy infrastructures holds the promise of increasing energy security and reducing dependence on imported fossil fuels in a manner conducive to sustainable economic growth.

Ecotourism and nature-based tourism. Mongolia has its unique natural settings, the nomadic culture, and the rich heritage that may offer great potential for tourism development. Mongolia would be in a position to draw international tourist inflows and realize increased economic growth in the rural countryside with the rapid development of its tourism infrastructure, developing sustainability in the practice of the industry, and promotional improvements.

Agriculture, with herding on livestock and cropping, constitutes a vital sector of Mongolia's economy. Improving agricultural productivity, enhancing value chains, and increasing access to markets can improve food security, reduce rural poverty, and diversify the economy.

Mongolia's strategic location between China and Russia offers perfect opportunities for regional cooperation and trade. Strengthening trade ties, expanding export markets, and engaging in regional economic initiatives can further integrate Mongolia's economy and diversify its trade partners.

Additionally, increased investment in education, skills development, and innovation is essential to harness the potential of a highly skilled workforce, thereby accelerating the development of

entrepreneurship and knowledge-based industries. Developing human capital is crucial for maintaining economic growth and enhancing competitiveness.

2.2.3 Rural and urban differences in Mongolia

Settlements in Mongolia are divided into rural and urban. Urban areas are divided into megapolis, cities, towns, and ger districts. Rural areas are divided into villages and dispersed self-settlement. Rural areas are simply places that have a relatively small and scattered population, usually equal to or less than 2500 people. Rural most relate to farming activities, including agriculture, farming, and keeping livestock. The Mongolian countryside mainly consists of land use areas for agricultural cultivation and grazing. Rural housing in Mongolia includes traditional housing such as gers or yurts. In a rural Mongolian setting, life resonates with seasons filled with practices of agriculture and pastoralism, with residents engaging in activities such as animal production, wool combing, herding, and many other practices necessary for their subsistence. These are the backdrops of the rural, marked by the proximity of nature, reliance on traditional practices, and the rooted lifeway into even the cycles of agriculture and animal husbandry.

Only 20% of Mongolians were urban dwellers in 1950. Since then, there has been a sharp increase in rural-urban migration in Mongolia, particularly following the country's 1991 shift from a centrally controlled to a market-based economy. Currently, 70% of the 3.4 million people living in the nation are urban, compared to 50% for Asia as a whole (Asian Development Bank, 2022). Figure 9 below shows that Mongolia's the percentage of rural population from 1961 to 2022. In 1961 the percentage of rural population was 64%, now it is 31%.

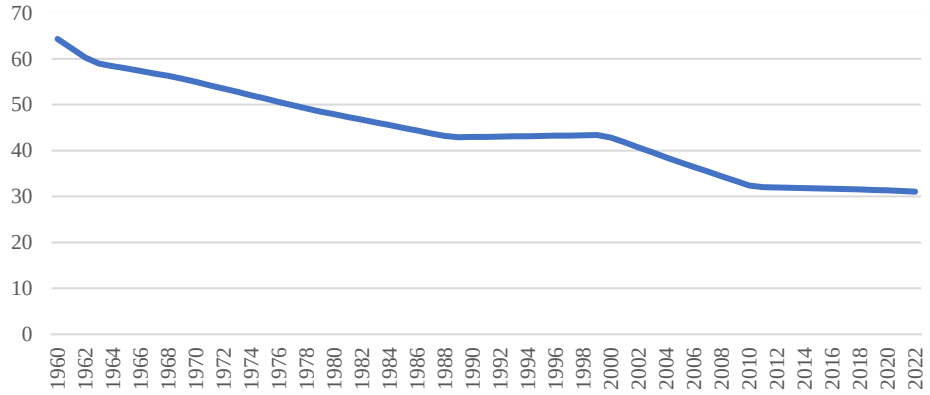

Figure 9: Share of Rural Population in Mongolia's Total Population, 1961-2022 (%)
Source: Own edition, based on World bank, 2024

The number of people migrating from the countryside to the capital is growing every year, and Ulaanbaatar covers only two percent of Mongolia's territory, but approximately 50 percent of the population lives in Ulaanbaatar.

Settlements rural in peripheral and far away from urban influence give realization to these attributes. Traditional dwelling gers are commonly termed yurts; they are tent-like structures in their rural areas, which include a wooden frame, usually felted with wool. Gers can be easily collapsed and transported with a minimum of animals, usually not over three such as horses, camels, or yaks.

Life in the hinterlands is led about seasons, and most of the settlements the inhabitants make are seasonal to correspond to some activities. Combing the wool of goats and animal production are some of the activities that take place at the spring settlement. With the coming of the summer settlement, displacements are done in search of the best pastures. At the same period, the livestock is also milked, the airag is fermented, and the fast horse training commences. All these gradually fade with the importance of the activities in the center stage of winter settlement. Autumn settlements involve activities like hay moving, foal marking, and felt making, including stocking food for livestock and ensuring shelters.

2.2.4 General government budget in Mongolia

The General Government Budget incorporates the Central Government Budget, the Local Budget, and the Social Security Fund Budget. The national level budget reflects the proposed revenues and expenditures to be approved by the State Great Khural (Parliament) of Mongolia and is the General Government Budget. The budget of local government, meanwhile, approved by Citizens' Representatives Khurals (local parliament), includes provinces' budget, the capital city-Ulaanbaatar, and smaller administrative units, soums (sub-province) and districts, thus reflecting proposed respective revenues and expenditures. It should ensure the realization of national and local fiscal policies, the manning needs, and the capacity of Mongolia's diverse regions.

Introduced by the Budget Law in 2011, the Local Development Fund (LDF) in Mongolia serves as a citizen-participatory financing tool for investments within aimags, the capital city, soums, and districts. It embodies fiscal reform that empowers local citizens to directly participate in the decision-making process for investment projects funded by the national government. Aimed at

promoting regional development balance, the LDF prioritizes local initiatives to foster a stable and inclusive community environment. Funding, derived from a portion of budget revenues like VAT and mineral royalties, is allocated annually across various administrative levels based on specific distribution methods established by government resolutions. Between 2013 and 2021, the LDF successfully allocated 1.283 trillion MNT, with 253.4 billion MNT planned for 2022. Its financial support goes towards improving local infrastructure or addressing environmental issues. Projects are planned and implemented collaboratively to ensure they align with regional economic and social development goals. This process is subject to stringent Mongolian legal regulations and includes steps such as series of proposal submissions, public meetings, and prioritization to ensure full transparency, relevance, and broad community benefit ("Sustainable livelihood-3" project implementation unit, n.d).

2.2.5 Local Economic Empowerment in Mongolia

In urban areas of Mongolia, subnational governments (SNGs) promote employment as a critical aspect of their economic undertaking, especially with the ever-increasing numbers of young school leavers. They also regulate business development and land use and address associated social and environmental impacts. In contrast, rural areas experience a shrinking population, particularly among youth and those with higher education, linked to low productivity within a livestock-based economy and broader economic trends.

Authorities of SNGs respond by formulating economic development policies and plans based on the needs of the area. For instance, Darkhan-Uul aimag focuses on developing business activities around its university, investing in hide processing tanneries, promoting intensive agriculture, and investing in waste disposal and recycling technology.

The effectiveness of these plans depends on the actual role Subnational Governments (SNGs) can play and the tools at their disposal. SNGs possess many levers that promote economic development, including the authority to issue business permits, land-use permits, and facilitate registration and access to registry documents. They also control the extraction of natural resources, support local collective arrangements like pasture management, and convene stakeholders for participatory decision-making on regional development issues. This empowerment allows SNGs to encourage economic activities, for example, by extending land-use permits or subsidizing power tariffs. They can also foster partnerships between various stakeholders, such as herders, farmers,

businesspeople, and mining companies, to address common challenges and collaboratively plan for the region's future economic development.

Overall, the success of local economic initiatives depends on effective governance, strategic planning, and collaboration between the government and various stakeholders at the subnational level.

2.2.6 "Vision-2050" long-term development policy of Mongolia

The State Great Hural approved "Mongolia's long-term development policy VISION-2050" through resolution No.52 on May 13, 2020.

The "Vision-2050" development policy is rooted in Mongolian imperial history, nomadic civilization, national diversity, and represents a unique "Mongolian development model" aligned with global trends. It builds on previous policy papers approved by the State Great Hural and the Government. The core of this long-term development policy focuses on human development, comprising nine goals, including Shared national values; Human development; Quality of life and middle class; Economy; Governance; Green development; Safe and secure society; Regional and local development; and Ulaanbaatar and satellite cities. The policy spans three decades, with defined stages for 2021-2030, 2031-2040, and 2041-2050, accompanied by criteria indicators (Vision-2050, 2020).

2.2.7 Regional Development

Mongolia stands as one of the least densely populated nations globally, second only to Greenland. Beyond the capital, Ulaanbaatar, the population density barely surpasses one inhabitant per square kilometer, a unique characteristic that significantly influences regional and national planning. Envisioned through the lens of the Regional Development Concept ratified in 2001, Mongolia is strategically divided into distinct regions, each comprising specific aimags and regional pillars. The Western Region encompasses Bayan-Ulgii, Govi-Altai, Zavkhan, Uvs, and Khovd, with Khovd and Uliastai serving as regional hubs. The Khangai Region includes Arkhangai, Bayankhongor, Bulgan, Orkhon, Uvurkhangai, and Khuvsgul, featuring Kharkhorum and Erdenet as regional focal points. The Central Region integrates Govisumber, Darkhan-Uul, Dornogovi, Dundgovi, Umnugovi, Selenge, and Tuv, with Darkhan and Zuunmod as pivotal centers. In the Eastern Region, Dornod, Sukhbaatar, and Khentii are linked through Choibalsan and Undurkhaan.

Lastly, Ulaanbaatar, inclusive of its districts and satellite towns, represents a crucial part of this regional framework (Regional Development Concept, 2001).

The foundation of Mongolia's regional development planning lies in the "Regional Development Concept," ratified by Parliament Resolution No. 57 in 2001, and the subsequent government-approved development programs for Western, Khangai, Central, Eastern, and Ulaanbaatar regions. However, these pivotal documents reached the conclusion of their term in 2018-2020, necessitating the formulation of new concepts, policies, and programs to guide Mongolia's evolving regional development landscape.

In pursuit of a comprehensive regional economic development plan and its effective implementation, Mongolia has undertaken a strategic re-establishment of its macroeconomic regions. Emphasizing key requirements such as bolstering regional economic growth, enhancing correlation between regions, aimags, and sectors, fostering economic partnerships with neighboring countries, and maximizing the utilization of natural resources and land capacity for sustainable economic growth, the reconfiguration considered multiple factors. These factors encompassed national security, socio-economic aspects, political and administrative considerations, historical and cultural significance, as well as sectoral functions, structure, and organizational dynamics (Regional Development Concept, 2001).

The long-term policy document, "The Vision 2050," which is approved parliamentary, prominently features a dedicated chapter on Regional Development Policy. The proposal outlines the establishment of six distinct regions, each with a specialized focus. These following 6 regions:

1. Economic development axis, industry, tourism and green development of the eastern Mongolian region: Khentii, Sukhbaatar, Dornod;
2. Responsible mining, high-tech production, services, and paleontological tourism region: Govisumber, Dornogovi, Dundgovi, Umnugovi;
3. Natural resources, tourism, and green development region: Govi-Altai, Bayankhongor, Uvurkhangai;
4. Economic development axis, Altai culture, natural resources and green development of the western Mongolian region: Khovd, Bayan-Ulgii, Uvs;

5. Intensive farming, tourism, and green development region: Selenge, Darkhan-Uul, Orkhon, Bulgan, Arkhangai, Khuvsgul, Zavkhan;
6. International science and technology center, transportation hub, high-tech production and service region: Ulaanbaatar.

Beyond macro-level regional divisions, the 21 aimags of the country are envisioned to consist of 83 centers distributed throughout the territory, functioning as microeconomic regions. The realization of these goals will be annually assessed based on nine criteria, including logistics centers, connectivity to national roads, establishment of food and light industry companies, agricultural technology parks, new entities in the mining and heavy industrial sectors, international airports, and information and communication complexes (Vision-2050, 2020).

This comprehensive approach of regional and local development aligns with Goal 8 of Vision-2050, aiming to achieve competitive and well-balanced regional and local development, harmonized with regional economic integration. The overarching vision prioritizes respect for national culture, sustainable settlements, preserved nature, and eco-balance, ensuring a legacy for future generations through coherent green production, economic diversification, and specialization.

Under the banner of Smart Governance, specific activities are slated for implementation between 2021 and 2030, encapsulated in Objective 5.2.8. The focus of this initiative is the strategic allocation of administrative and territorial units, dedicated to coordinating administration and organizing these units in alignment with regional development policies. The primary goal is to ensure the efficient delivery of public services and foster economic independent development. By adopting this approach, Mongolia aims to enhance the synergy between administrative structures, regional development objectives, and public service delivery mechanisms, ultimately contributing to the sustainable and independent growth of its economy. This forward-looking strategy underscores the nation’s commitment to fostering a responsive and well-organized governance framework that actively contributes to the overall development and welfare of its citizens (Vision-2050, 2020).

III. METHODOLOGY

3.1. Data and Methodology

Secondary Data Compilation

This phase involves an extensive review of existing literature, academic papers, governmental reports, and industry publications to establish a contextual framework. A detailed examination of economic indicators, historical trends, and demographic data specific to Darkhan-Uul Province, Orkhon soum will uncover critical insights into its economic evolution.

Primary Data Collection

Primary data will be gathered through in-depth interviews administered to key stakeholders and structured questionnaires to residents within Orkhon Soum. Such a perspective ensures that there is a nuanced approach to local perspectives, local aspirations, and local challenges that form the bedrock of the economic landscape in the area. The research questionnaire aims to understand the priorities, satisfaction levels, and perceptions towards the quality of life, demographic trends, economic prospects, and general public service delivery of the residents in Orkhon Soum. It seeks to determine what aspects of life residents value most, from economic stability to healthcare and infrastructure, and how these influence life satisfaction. The questionnaire explores the economic landscape, specifically agriculture, and assesses the quality of public services to uncover economic opportunities, challenges, and reasons behind outmigration. This effort is designed to inform local policies, guide development initiatives, and shape strategies for enhancing community well-being and economic development.

I determined the optimal number of survey participants from Orkhon Soum's 3245 residents by considering statistical parameters like confidence level, margin of error, population proportion, and total population size. For a 90% confidence level, the Z-score is approximately 1645, which reflects confidence in the likelihood that the sample accurately represents the population. Assuming a maximum variability scenario where the population proportion (p) is 0.5 (50%), which provides the largest required sample size for a given set of parameters, and aiming for a margin of error (E) of ±5% (0.05), integrate these values into the formula for calculating sample size for a finite population. Substituting the values for a 90% confidence level (Z = 1.645), a margin of error of 5%

(E=0.05), a population proportion of 0.5, and a total population of 3245, the calculation yields a sample size of approximately 250 residents.

$$\text{Formula: } n = \frac{\frac{\left(Z^2 * p * (1-p)\right)}{(E^2)}}{\left(1 + \left(\frac{\left(Z^2 * p * (1-p)\right)}{(E^2 * N)}\right)\right)} \qquad n = \frac{\frac{\left(1.645^2 * 0.5 * (1-0.5)\right)}{0.05^2}}{\left(1 + \left(\frac{1.645^2 * 0.5 * (1-0.5)}{0.05^2 * 3245}\right)\right)} = 250$$

This means that to achieve a survey result with a 90% confidence level and a margin of error of ±5%, at least 250 residents from Orkhon Soum need to be surveyed. This sample size ensures that the survey findings are statistically significant and reliably represent the community's views within the specified confidence and precision parameters.

In preparing for my survey, I first considered the predicament of the age group below eighteen years, knowing they would not be able to give sound responses. I, therefore, based my survey sample plan collection upon 200 responses, not less than that amount to obtain an all-rounded view of the community's perspective. However, my efforts came to face an unexpected obstacle against the severe winter conditions that Mongolia had in 2024. The country has faced the highest snowfall in the last 50 years; 90% of its territory was hidden, which resulted in the coldest winter in 50 years. The main victims of this tragedy were around 5 million animals and, as a result, the livelihood of 3,00,000 persons, mostly in nomadic animal husbandry, almost has come to make their life miserable. A large majority of them were not at home. This is because, in their area, they were with the animals, struggling to save what was left of their stock and trying to save what was left of their primary income.

These extreme weather conditions significantly hampered my ability to collect the desired number of survey responses. Nonetheless, with the assistance of the Governor's office of Orkhon Soum, I was able to conduct the survey both online and in person. The residents of Orkhon Soum were presented with a questionnaire comprising 23 questions, some of which included sub-questions, to gauge various aspects of their lives and viewpoints. Despite the challenges, this approach enabled me to collect responses from 101 residents over the course of a month, from the end of January through March. This process not only highlighted the resilience required in conducting fieldwork under adverse conditions but also underscored the importance of community support in achieving research objectives. Simultaneously, structured questionnaires will be distributed to a

representative sample of residents, stratified by demographic variables (for the detailed questionnaire used see Appendix 1.).

The research, through detailed interviews with key figures in Orkhon Soum including the Governors of Enkhtal and Bayan Ulziit bags, and the heads of the Governor's Office and Finance Department delivers an in-depth analysis of the region's developmental challenges and opportunities (for the detailed draft of the interviews see Appendix 2.). These interviews, comprising 12 open-ended questions designed to encourage expansive responses, explore leaders' insights on policies, infrastructure, demographic shifts, and economic sectors poised for growth. This approach not only illuminates the perspectives of Orkhon Soum's leadership on enhancing residents' quality of life but also crafts a nuanced understanding of the strategic pathways for future development initiatives, presenting a holistic view of the community's aspirations and the hurdles it faces.

Below are the details of the interviewees and the methodology employed:

- Gonchig is the Governor of Enkhtal bag for five months, and previous work in the local legislative office.
- Altanzul is the Governor of Bayan-Ulziit bag for 2 years.
- Delgerjargal is the Head of the Governor's office for over 14 years at Orkhon soum.
- Batchimeg is the Head of the Finance department of the Governor's Office of Orkhon Soum, and has previous five years of experience from the public sector.

The interviews were carried out through both phone calls and video calls via different social media. Some were done in February, while others were done in March. That is to say, the means were lenient and easily adhered to by the busy time plans of the interviewees, who are distinguished top-ranking administrators from different places.

Data Integration and Analysis

Integration of primary and secondary data will form a comprehensive dataset. Rigorous quantitative and qualitative analyses, employing descriptive and inferential statistical techniques are conducted. By triangulating findings, this study aims to draw robust conclusions and provide actionable recommendations for advancing local economic development in Orkhon Soum.

3.2. Research questions

The proposed research will address the following key inquiries:

i. What aspects do residents prioritize in assessing their quality of life in Orkhon Soum? How are these priorities influenced by demographic factors like age, gender, and education?
ii. What factors contribute to residents' satisfaction or dissatisfaction with their circumstances in Orkhon Soum?
iii. How has the outmigration trend from Orkhon Soum in Darkhan-Uul Province evolved over the past decade?
iv. What could be the possible driving factors of further economic development in Orkhon Soum?

3.3. Hypothesis

Drawing on my experience and understanding of Orkhon Soum, I have formulated the following hypotheses in response to the research questions outlined earlier.

Hypothesis 1: Residents of Orkhon Soum prioritize aspects related to health, employment, and environment in assessing their quality of life, with these priorities varying significantly across different age groups, genders, and educational backgrounds.

Hypothesis 2: Residents' satisfaction with living in Orkhon Soum depends on factors such as job availability, service accessibility, infrastructure conditions, and community amenities.

Hypothesis 3: The outmigration trend from Orkhon Soum in Darkhan-Uul Province has experienced a significant increase over the past decade.

Hypothesis 4: Agriculture holds potential as a key driver for local economic development in Orkhon Soum.

IV. OWN RESEARCH

4.1. General overview of the study area

4.1.1. Territory and administrative units

Darkhan-Uul Province, nestled at Mongolia's heart, holds immense economic importance. Recognized for its industrial prowess and rich mineral resources, it's been pivotal to Mongolia's growth. Personally tied to this area, as it's my hometown, Darkhan-Uul boasts robust infrastructure, skilled labor, and a strategic location that attracts businesses and investments.

Darkhan City's roots trace back to the historic "Burkhant Valley" where its foundation was laid on October 17, 1961. It owes its early development to significant support from former socialist nations like the Soviet Union, and Bulgaria, Poland, Hungary, the Czech Republic, and East Germany.

Darkhan-Uul is located approximately 220 kilometers north of the capital city, Ulaanbaatar (Figure 10).

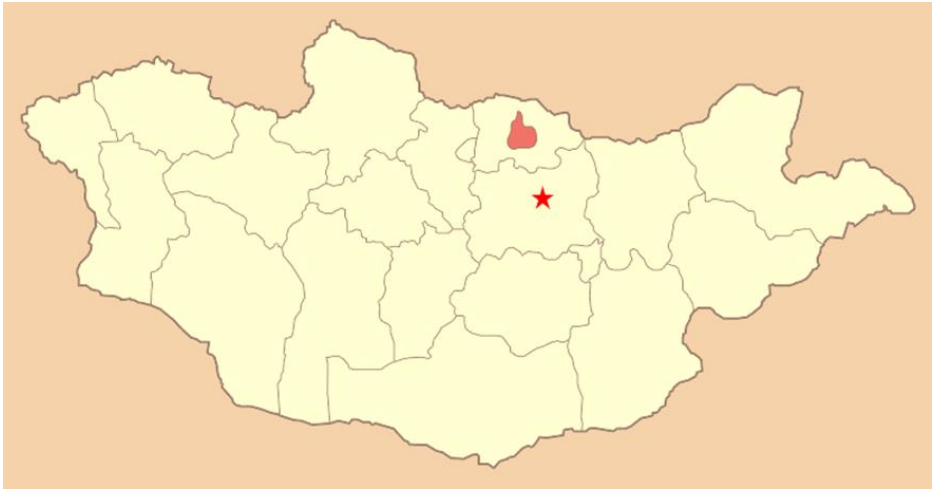

Figure 10: Location of Darkhan-Uul aimag

Source: Wikimedia Commons (n.d)

Darkhan-Uul Province has 26 primary administrative units, 18 in Darkhan Soum, 2 in Orkhon Soum, 3 in Hongor Soum, and 4 in Shariin Gol Soum. It has an area of 327.5 thousand square meters, of which 67.8 percent is agricultural land, 7.6 percent is urban and road networks, 22.0 percent is forest, and 2.0 percent is land with water bodies.

Figure 11 shows the map of soums in Darkhan-Uul aimag. Darkhan soum is located in the center of the province and the other 3 soums are bordered by Selenge province's soums.

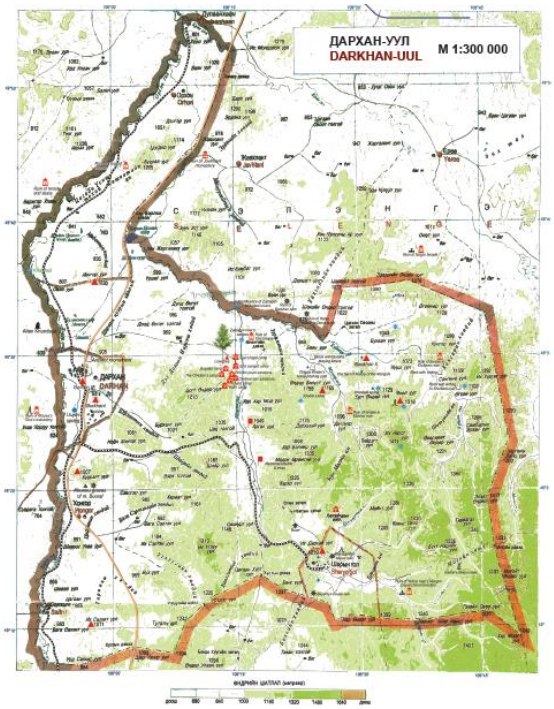

Figure 11: Map of Darkhan-Uul aimag, soums

Source: Department of State Registration in Darkhan-Uul aimag (n.d)

In 2022, Darkhan-Uul Province has a population of 104,551, of which 49 percent are men and 51 percent are women.

3.2% of the total population of Mongolia and 20.8% of the central region live in Darkhan-Uul province. It ranks fifth among provinces in terms of population after Khuvsgul (137.6), Uvurkhangai (117.3), Selenge (108.9), and Bayan-Olgii (108.4) provinces.

Table 6 below provides a breakdown of Darkhan-Uul province's population distribution across its various administrative units. Darkhan-Uul province has witnessed varying population trends across its soums, with Darkhan Soum maintaining its status as the most populous, while other soums display different patterns of population change. The reasons for these fluctuations could be influenced by factors such as migration, economic activities, and regional development.

Table 6: Population of Darkhan-Uul Province by Bag and Soum, 2018-2022 (person)

Bag, soum / year		2018	2019	2020	2021	2022
Province's total population		**104,238**	**102,171**	**103,580**	**104,737**	**104,551**
I	**Darkhan soum**	**86,749**	**85,303**	**86,547**	**87,595**	**87,796**
1.1	1 bag	3,970	3,918	3,846	3,701	3,605
1.2	2 bag	4,450	4,499	4,421	4,432	4,263
1.3	3 bag	5,409	5,072	5,165	5,103	5,053
1.4	4 bag	3,223	2,985	2,999	2,994	2,947
1.5	5 bag	5,064	4,740	4,827	4,874	4,777
1.6	6 bag	5,072	4,817	4,897	4,947	4,843
1.7	7 bag	6,157	5,611	5,962	5,937	5,735
1.8	8 bag	7,203	6,979	7,117	7,166	7,168
1.9	9 bag	5,523	5,403	5,571	5,665	5,675
1.10	10 bag	5,529	5,648	5,709	5,910	6,172
1.11	11 bag	4,008	4,209	4,337	4,533	4,822
1.12	12 bag	3,774	3,765	3,942	4,099	4,218
1.13	13 bag	4,349	4,434	4,450	4,588	4,630
1.14	14 bag	5,083	5,219	5,509	5,865	6,160
1.15	15 bag	8,647	8,321	8,534	8,735	8,778
1.16	16 bag	3,890	3,917	3,915	3,885	3,912
1.17	Malchin bag	2,042	1,980	3,334	1,995	3,098
1.18	Urguu bag	3,356	3,786	2,012	3,166	1,940
II	**Orkhon soum**	**3,300**	**3,198**	**3,255**	**3,351**	**3,245**
2.1	Bayan Ulziit bag	2,621	2,539	2,596	2,660	2,569
2.2	Enkhtal bag	679	659	659	691	676
III	**Khongor soum**	**6,115**	**5,861**	**5,889**	**5,964**	**5,874**
3.1	1 bag	2,513	2,373	2,382	2,402	2,404
3.2	2 bag	1,896	1,837	1,850	1,874	1,842
3.3	Salkhit bag	1,706	1,651	1,657	1,688	1,628
IV	**Shariin gol soum**	**8,074**	**7,809**	**7,889**	**7,827**	**7,636**
4.1	Khairkhan bag	3,228	3,140	3,195	3,162	3,140
4.2	2 bag Darkhan bag	2,161	2,113	2,155	2,136	2,126
4.3	3 bag, Sanjint	2,685	2,556	2,539	2,529	2,370

Source: Own edition, based on 2022 report of Darkhan-Uul Province Statistics Department, 2024

Notably, a significant majority, comprising 83.6 percent, resides in Darkhan Soum, the provincial center. Hongor Soum is home to 5.7 percent of the population, Orkhon Soum accommodates 3.2

percent, and Shariin Gol Soum has 7.5 percent of the province's residents. Delving further into the provincial dynamics, 80.6 percent of the population is concentrated in the central area, while 19.4 percent resides in the rural countryside. This demographic overview illustrates the concentration of inhabitants in the provincial hub and sheds light on the distribution between urban and rural settings within Darkhan-Uul.

There are 32.4 people per square kilometer, and the population density is 15.4 times higher than the national average. The number of people per km2 is 839 in Darkhan Soum, which is 25.9 times higher than the provincial average, 6.8 in Orkhon Soum, which is 4.7 times lower than the provincial average, and 2.3 in Hongor Soum is 14.1 times lower than the average of the province, and 49.1 of the Shariin gol soum is 1.5 times higher than the average of the province.

Based on Darkhan-Uul Province Statistics Department's data, in Darkhan-Uul, 80.6% of residents dwell in the provincial center, while 19.4% reside in rural areas. Within its administrative divisions, 26.9% (7 bags) boast populations exceeding 5,100, and 38.4% (10 bags) have between 3,100 to 4,900 residents.

The demographic composition has shifted slightly, with the proportion of children aged 0-15 increasing by 0.3 percentage points from 2020, the segment aged 60 and over also rising by 0.3 percentage points, whereas the 16-59 age group saw a reduction of 0.6 percentage points in its share. The sex ratio stood at 96.6 in 2021, indicating 97 males for every 100 females, consistent with the previous year's ratio. Furthermore, the total household count in the province saw a growth of 1.9 percent or 550 households from the last year, where 53.8% of the teams account for more than 1,000 households, 42.3% range from 489-978 households, and a minor 3.9% host up to 400 households.

4.1.2. Economy of Darkhan-Uul province

Darkhan-Uul Province, a strategically significant junction for industrial and transport, is based in Northern Mongolia. This province has the mineral resources of coal, copper, and fluorspar, along with other related minerals that gave rise to sufficient investment in the respective sectors and activity.

The darkhan-Uul province is the administrative and industrial center of the country's central part. The city's diversified industrial base includes manufacturers, construction enterprises, and food-

processing companies. The town is possessed with developed infrastructure and a skilled labor force. It is situated relatively close to the most critical transportation networks, which makes it very convenient for doing business and investing in the city.

Darkhan Soum, the provincial capital, is 223 km from Ulaanbaatar. The railway passes over the territory of Orkhon, Hongor, Darkhan and Shariin Gol Soum and connected to the power distribution network of the central region. All districts of the province can connect to mobile phone and fiber optic cable to use the Internet. Branches of mobile phone operator Mobicom, Skytel, Unitel and G-mobile are providing services in the province.

Concerning the distribution of value-added contributions to the GDP produced in Darkhan-Uul province in 2022, the service sector comprised 42%, the agriculture sector accounted for 11%, and the industrial sector contributed 47%, as illustrated in Figure 12.

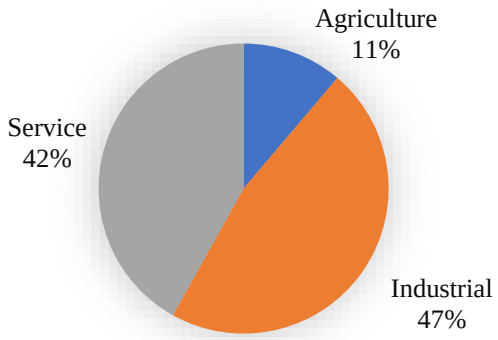

Figure 12: GDP contributions of Darkhan-Uul province (%), 2022

Source: Own edition, based on 2022 report of Darkhan-Uul Province Statistics Department, 2024

Agriculture: Darkhan-Uul is one of the few regions in Mongolia where crop production is feasible and productive, with wheat, vegetables, and forage crops being the main products. While not as dominant as in other parts of Mongolia, livestock farming is still an important economic activity, with an emphasis on dairy farming and meat production.

In Darkhan-Uul, 313.2 thousand livestock were counted in the 2022 end-of-year livestock census, which is a decrease of 42.1 livestock or 11.8 percent compared to the same period last year. Livestock composition includes 0.02% camels, 6.2% horses, 14.3% cattle, 46.1% sheep, and 33.3%

goats, showcasing the province's diverse agricultural base. Of the total 352.1 thousand head of livestock, 99.1 percent are owned by citizens, and the rest belong to enterprises and organizations.

In the spring of 2022, 18,110.0 ha of grain (of which 16,571.0 ha is wheat), 525.5 ha of potatoes, 1446.1 ha of vegetables, 1362.0 ha of animal feed, 3807.0 ha of rapeseed, 2.5 ha of cultivated medicinal plants. Plantation increased by 9.4 percent from the same period last year. Harvested grains increased by 7028.0 tons or 42.8 percent, fodder plants by 733.0 tons or 74.0 percent, technical plants by 1145.0 tons or 80.4 percent, potatoes by 69.4 tons or 99.1 percent, and vegetables by 125.3 tons or 99.2 percent (Darkhan-Uul Province Statistics Department, 2022).

In Darkhan-Uul province, there is not enough farmland, so cultivation is carried out in neighboring provinces. Despite facing challenges such as a decrease in livestock numbers and limited farmland, the region has shown resilience and adaptability, marked by increased crop yields and the integration of modern amenities into herding lifestyles.

Industry: Darkhan-Uul Province, strategically located as an industrial and logistics hub in northern Mongolia, is distinguished by its diversified industrial base. The province's industrial sector benefits from its proximity to the Russian border for exports and imports, a skilled labor force, and relatively developed infrastructure, including rail connections.

In the industrial sector of Darkhan-Uul, a diverse production landscape emerges, with 17.5% of total product production dedicated to electricity and hot water, 64.3% to mining, and 18.2% to processing activities.

The distribution of industrial product production across the soums is notably concentrated, with Darkhan soum accounting for 85.9% of the total, highlighting its pivotal role in the region's industrial output. Conversely, Hongor and Orkhon soums contribute a minimal 0.1% each, while Shariin gol soum contributes 13.9%, with their main focus on providing heating and clean water services to citizens.

In Darkhan-Uul province, a total of 233 units of 4 industrial sectors and 19 sub-sectors are engaged in production and supplying to the market, 19 in the mining and extraction industry, 203 in the processing sector, 11 in the electric and thermal energy sector, and 1 unit in the water supply and canalization system are engaged in the production of more than 203 branded products (Darkhan-Uul Province Statistics Department, 2022).

The sector of metallurgy and metal processing, particularly the steel output from the Darkhan Metallurgical Plant, has a central role in the industrial landscape of the provinces. The large-scale steel output from the Darkhan Metallurgical Plant resonates this fact. The region also hosts enterprises producing metal goods for different sectors. In construction materials, businesses like Darkhan Cement Factory produce cement, concrete, bricks, and tiles used for construction projects in Mongolia. Many industries in food processing, including meat and dairy processing plants, use a significant share of raw materials from the local livestock sector to produce value-added products for domestic and foreign markets.

Additionally, the textile and leather industry benefits from Mongolia's status as a top cashmere producer and leverages local livestock for leather goods, demonstrating Darkhan-Uul's diverse and integrated industrial capabilities.

Figure 13 illustrates the quantity of enterprises across diverse sectors, encompassing light industries like construction materials, packaging, recycling, leather production, printing, sewing products, wool cashmere, and wood products in Darkhan-Uul province.

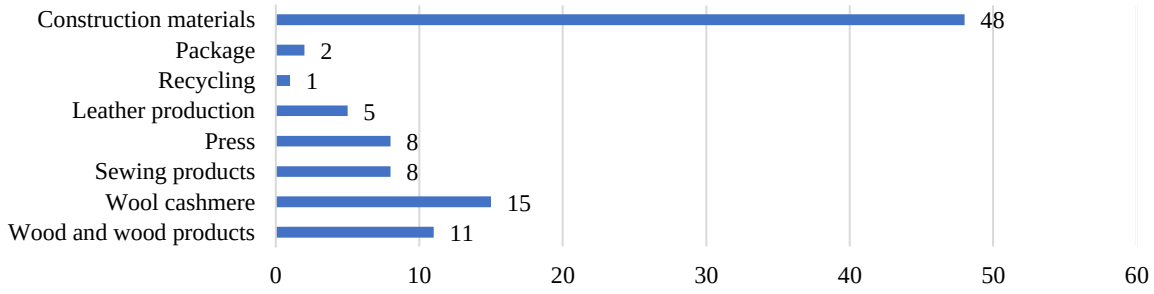

Figure 13: Number of enterprises of light industry in Darkhan-Uul province, 2022

Source: Own edition, based on Governor's office of Darkhan-Uul province, 2024

From its modest beginnings with only 5 shops, 3 canteens, and 2 stalls, Darkhan city has seen remarkable growth in its trade and service sectors. Today, the city boasts 860 trade enterprises and 246 service providers, reflecting the expanded range and scope of its market to better serve its citizens.

According to the Statistical Business Register in 2022, a total of 2,406 enterprises are registered across the region, with Darkhan Soum leading with 2,147 enterprises, followed by Shariin Gol Soum with 101, Orkhon Sum with 62, and Hongor Soum with 96 enterprises. Specifically, in the

goods sector, there's been a notable increase to 860 enterprises, marking a 4.7% growth from the previous year. This evolution underscores the dynamic expansion and diversification of Darkhan's economy, highlighting its development into a bustling hub of trade and services.

In 2021, Darkhan-Uul province witnessed significant activity in construction and major repairs, totaling 97.2 billion MNT, although this represented an 8.5% decrease from the previous year. Within this sector, construction work dominated, accounting for 93.3% of all activities, while major repair work constituted the remaining 6.7%. This distribution highlights the province's continued focus on expanding and upgrading its infrastructure, despite the slight downturn in overall construction and repair expenditure compared to the previous year.

Services: The service sector in Darkhan-Uul encompasses a wide range of activities, including retail and wholesale trade, hospitality, financial services, education, healthcare, and transportation. The growth of this sector is closely linked to the province's industrial development and its role as a transit point between Russia and the rest of Mongolia.

The sector includes a mix of local markets, shops, and increasingly, modern retail outlets serving the needs of both residents and businesses in the province. The development of trade centers and supermarkets has been noted, reflecting urbanization and economic growth.

Given Darkhan-Uul's position on the transit route between Ulaanbaatar and Russia, the hospitality industry, including hotels, guesthouses, and restaurants, plays a significant role. The region's cultural and natural attractions also contribute to a developing tourism sector.

Banks and microfinance institutions in Darkhan-Uul offer a range of financial services to individuals and businesses. The presence of financial services is crucial for the province's economic activities, supporting industrial and agricultural sectors.

The service sector includes public and private institutions providing education from kindergarten to higher education. The Darkhan-Uul Province is home to branches of universities and vocational training centers, catering to the local demand for skilled labor.

In the province, the education system caters to a wide range of students. With 24.5 thousand children in 26 general education schools and 1,163 teachers, the system also accommodates 545 children in dormitories, showing support for remote learners. Kindergarten education involves 7.9 thousand children across 279 groups in 40 kindergartens, with 667 educators. Higher education is

expanding, with student numbers growing from 5,688 in the 2021-2022 academic year to 6,045 in 2022-2023, including 2,507 new enrollments. This represents an increase of 375 students and an additional 37 new enrollments over the year, supported by a rise in faculty from 323 to 334, demonstrating a commitment to improving educational offerings (*Darkhan-Uul Province Statistics Department, 2022)*.

Healthcare services in the province range from hospitals to clinics and specialized health centers, serving the population's needs.

At the close of 2022, Darkhan-Uul province had 1,988 active enterprises out of 4,900 registered in the Business Register, showcasing the operational scope of the local economy. Financially, the province demonstrated robust fiscal performance in 2022.

By the end of 2022, Darkhan-Uul's registered unemployed dropped to 319, a decrease of 614 from the previous year, with women making up 50.8% of this group. Youth unemployment is notably high, with 52.0% aged 15-34. Educational levels vary among the unemployed: 30.7% have higher education, 54.2% completed secondary education, and the rest have various levels of education, reflecting a diverse educational background within the unemployed demographic.

Over the years, it has nurtured direct partnerships with several global counterparts. Darkhan: Notably, Zeitz in Germany, Kaposvár in Hungary, Ulaan-Ude in Buryatia, Vitebsk in Belarus, Zhejiang in China, and Hillerod in Denmark. Such relations have promoted exchange, sharing of knowledge, and support for development, thus contributing to the progress made by the city. On top of that, international grants are given from countries such as Turkey, Austria, and Korea, among others, which have reached Darkhan. These grants have been pivotal in strengthening specific developmental projects, infrastructural enhancement, economic growth, and the way of social welfare initiatives etc. within the city.

Driving development means local governments act with support from the Provincial Government of Darkhan-Uul. The strengthening of the project is considered through support from international organizations, grants, loans, and technical assistance. Community-driven projects and sustainable practices receive a base of national organizations, government, and local programs.

In Mongolia, development planning happens both nationally and locally. The whole country follows big plans like Vision 2050 and Sustainable Development Goals. Each province has its own plans for five years, focusing on specific areas like education or the environment.

4.1.3. Comparison with Other Provinces in the Region

The economy of Darkhan-Uul is diverse, with industries including mining, manufacturing, agriculture, and services. The province is known for its industrial activity. Darkhan has relatively well-developed infrastructure compared to some other provinces in Mongolia. It has good road and rail connections. I conducted a comparative analysis of Darkhan-Uul aimag with neighboring aimags such as Selenge, Orkhon, Bulgan, and Tuv, based on their geographical proximity and similarities, and Figure 14 shows Map of Mongolia with aimags.

Figure 14: Map of Mongolia with aimags

Source: https://www.worldometers.info/maps/mongolia-political-map/

Selenge Province: Just on the west side of Darkhan-Uul Province lies Selenge Province. The main activities in Selenge are agriculture, including crop cultivation, animal husbandry, and limited mining activities. Its population is slightly more than Darkhan-Uul. The land area of Selenge province is greater than the land area of Darkhan-Uul-41,000 square km.

*Orkhon Province:*It is on the southwest of Darkhan-Uul. Orkhon is famous for its large-scale mining, especially in copper mining. The Erdenet Mining Corporation represents the Asian giant

copper mine in the area. It does not have a big difference compared to Darkhan-Uul's population or a bit above its population count.

Bulgan Province: To the northwest of Darkhan-Uul lies the province of Bulgan. The economy of Bulgan is based on its practices in agriculture, mining, livestock, and vegetables. Here also, the population is highly dense, just like Darkhan-Uul.

Tuv Province: The province lies southwest of the Darkhan-Uul Province. Although it is next to the province, many term that one as being closer to the capital, Ulaanbaatar. There is an abundance in this region of infrastructure and economic activity. Tuv stands as the center of diverse industries and services. The province stands higher in population than Darkhan-Uul.

A common thread among Selenge, Orkhon, Bulgan, and Tuv Provinces, alongside their geographical proximity to Darkhan-Uul, is their engagement in both agricultural activities and mining operations. Each province, despite its unique economic focus and population size, contributes to Mongolia's agricultural output, ranging from crop cultivation to livestock farming and hosts mining operations, from copper mining in Orkhon to varied mineral extraction in others.

4.1.4. Comparison with soums in the Darkhan-Uul province

Figure 15 shows Map of the Darkhan Uul aimag with the soums. Darkhan soum is located in the center of the province and the other 3 soums are bordered by Selenge province soums.

Figure 15: Map of the Darkhan Uul aimag with the soums
Source: Wikipedia

Darkhan soum: The center is focused on the city of Darkhan, the capital of the Darkhan-Uul Province. Darkhan is an industrial and commercial center; it is famous for its many factories in production, mining, and related large factories. It will also most likely have a more urbanized environment compared to the other soums. The economy of Darkhan is diverse and has vast bases,

from mining to manufacturing and services; it has been described as a leading economic center within the province.

Orkhon soum: Orkhon soum belongs to the northern part of the Darkhan-Uul province. The soum can be basically classified as urban-rural, with a focus on the agricultural activities of the area. Besides, the region also has natural features like rivers or valleys. Perhaps, for the economy of Mongolia, agriculture could play a significant role in Orkhon province.

Khongor soum: Khongor is situated in a specific area within Darkhan-Uul Province. There may be irregular landforms, including steppe, hills, and others. There may be the presence of both mixed rural communities and natural resources within this area. Economic activities could focus on agriculture, reasoning, and probably some mining or other resource-based economic activities.

Shariin gol soum: This soum is located in a specific area within Darkhan-Uul Province. Shariin Gol has its own character with features that could include natural features like rivers, forests, or other landscapes. It could have a mix of rural communities. Some of the things Sharin Gol's economy might be influenced by could be agriculture, forestry, and other potential local industries.

Summarizing, if the industrial and commercial nuclei of the province are found in the fortress of the Darkhan Soum, the rest are in a way more agricultural and natural resource-affiliated in Orkhon, Khongor, and Shariin Gol Soums, each uniquely contributing to the economy. This great difference, going from the urban industrialization of Darkhan to the agrarian/natural resource-based economies of the other soums, shows the multifaceted economic landscape of Darkhan-Uul Province.

Inside these provinces, smaller areas called soums make their own plans too. They look at what is special about the place and make a plan for four years. This way, they mix big country goals with what an area needs. Mongolia gives great aims to every person. There is a unique individual plan for developing and overcoming each challenge in every soum for them to grow in their way. In such a way, the whole country moves forward together as everyone pitches in.

4.1.5. General overview of Orkhon soum

Orkhon Soum of Darkhan-Uul Province was first established in 1968 in the confluence of the Orkhon Shariin Gol in Selenge Province under the name of Orkhon Shariin Gol Fruits, Vegetables

and Dairy Farm. Due to administrative and territorial unit changes, it was reorganized into Orkhon Soum with two bags: Bayan-Ulziit and Enkhtal.

Orkhon Soum has an area of 44177 hectares, is located 275 km from the capital city of Ulaanbaatar and 45 km from the provincial center, is crossed by the railways and paved roads of Mongolia's northern direction, and has a well-developed infrastructure connected to centralized energy and all mobile communication services. The special advantage of this soum.

In 2022 census, the soum has a population of 3,245 people organized in 2 bags, 61.9 percent of the total population is young people under the age of 35, the employment rate is 80.9 percent, and the unemployment rate has decreased by 0.3 percent from 2016 to 4.3 percent. Figure 16 shows the population of Orkhon soum from 2014 to 2022.

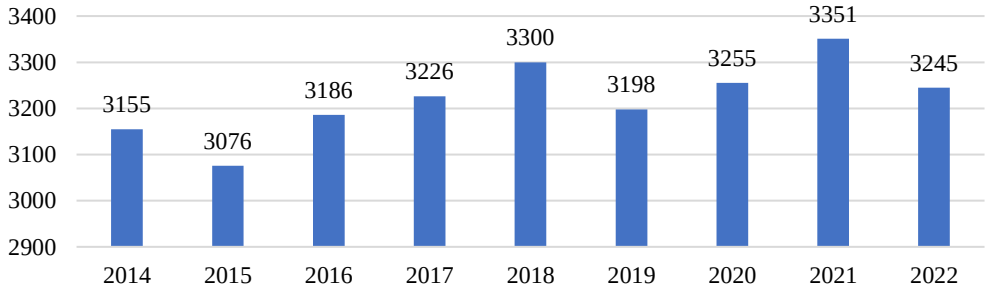

Figure 16: Population of Orkhon soum, 2014-2022 (Number of People)
Source: Own edition, based on Mongolian National statistics office, 2024

Recognized for its agricultural prowess, especially in potato and vegetable cultivation, alongside intensive animal husbandry, beekeeping, and family farming. Notably, this soum received the prestigious Altan Gadas Odon for household farming, contributing significantly to the nation's vegetable supply (20%). The emphasis on household farming signifies a collective effort where every household actively participates as producers, ensuring self-sufficiency and national contribution.

The village is mainly engaged in agricultural production, potatoes and vegetables are grown on 1300-1700 hectares of irrigated engineering system, and an average annual harvest of 13000-17000 tons is obtained.

In recent years, intensive animal husbandry, agriculture and beekeeping have been developed in combination, and they have 40,330 animals, 1,601 colonies of bees, harvest 42,465 liters of honey and supply it to the market. 1,537 citizens of 468 households in the soum are engaged in agricultural

production, beekeeping, and livestock production. 20 companies, 10 cooperatives in food and trading, 16 companies, 13 cooperatives in crop and vegetable products, and 6 companies, 7 partnerships, and cooperatives in livestock production are operating in soum.

The Orkhon Soum was singled out as a village community with active civic participation, part of participatory governance, and communal decision-making. The cooperation ensures that social bonds are vital, as observed from cultural festivals and through cooperative efforts within the village, such as agricultural cooperatives. The soum is an active community of vegetable growers who have banded under the Association of Vegetable Growers. The association, supported by local and international projects, has improved the livelihood of its members by a collective sale of produce, including the production of added-value products like juice and jam, thus adding value to the local economy.

Orkhon Soum's comprehensive 4-year plan focuses on modernizing agriculture, leveraging the Vegetable Cooperative's efforts to enhance productivity.

4.2. Results of the survey

As a main goal I tried to investigate what aspects do residents prioritize in assessing their quality of life in Orkhon Soum and how are these priorities influenced by demographic factors like age, gender, and education. I conducted a questionnaire among the residents of Orkhon Soum to understand how these factors are interrelated. The survey provides a comprehensive demographic snapshot of the respondents, offering significant insights into their gender, age, education level, and employment status. With a total of 101 respondents, the gender distribution leans towards females, who constitute approximately 62% of the participants, compared to 38% males (Figure 17).

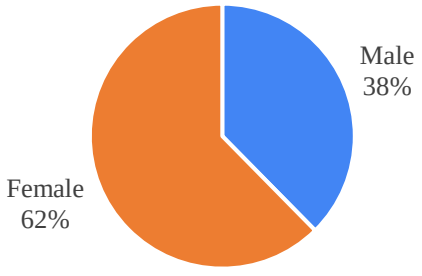

Figure 17: Gender of survey respondents (%)
Source: Own research and edition, 2024

This skew could suggest either a higher willingness among women to participate in surveys.

Figure 18 below illustrates the age group distribution of the survey respondents, highlighting a significant concentration in the 26-35 and 36-45 age brackets. These two groups together constitute the majority of the survey population, indicating that the views and insights gathered predominantly represent the perspectives of middle-aged individuals in their prime working years. This demographic focus suggests the survey's findings are particularly relevant to understanding the needs, preferences, and challenges of the economically active segment of the community.

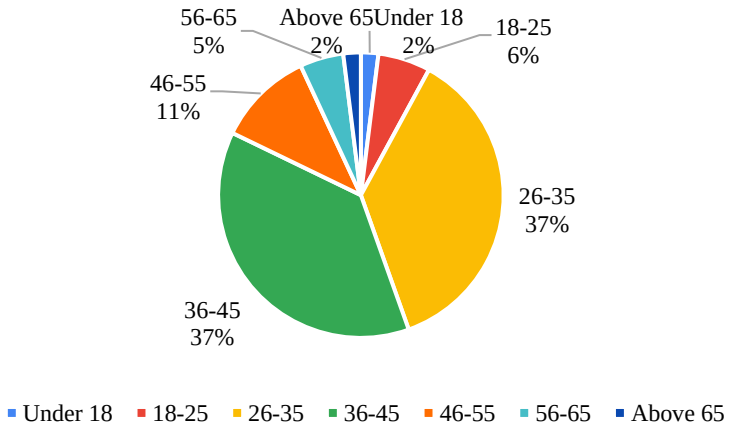

Figure 18: Share of respondents by age group (%)
Source: Own research and edition, 2024

The bar chart highlights that the survey predominantly attracted respondents with higher education, especially Bachelor's and Master's degrees, indicating a well-educated participant base (Figure 19).

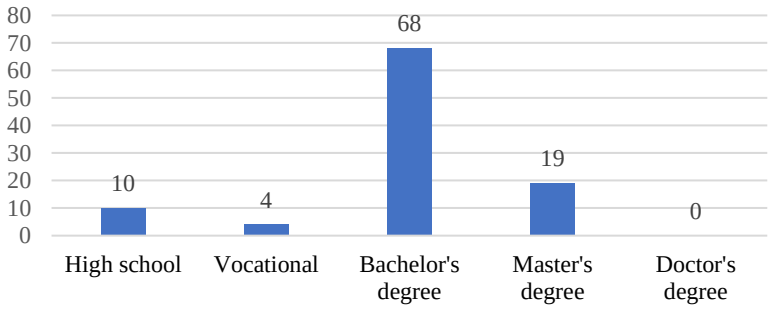

Figure 19: Education level of survey respondents (%)
Source: Own research and edition, 2024

More over respondents with 87% holding at least a bachelor's degree. The absence of Doctorate holders and few high school or vocational respondents suggest a focus on those with advanced

education. This skew towards higher educational levels may shape the survey outcomes, reflecting insights from a more academically inclined demographic.

The bar chart illustrates the varied employment statuses of survey respondents, with a notable majority employed in the public sector, followed by those in the private sector (Figure 20).

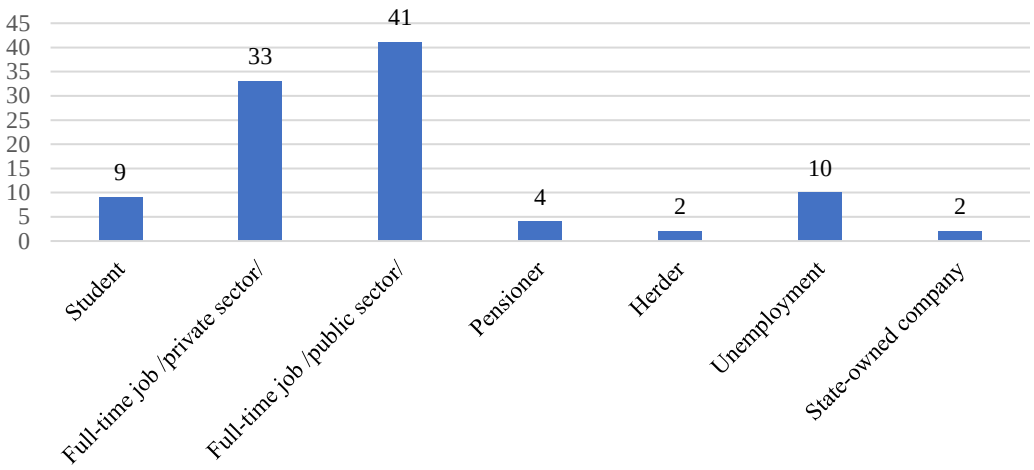

Figure 20: Demographic Breakdown of Employment Status Among Survey Respondents (%)

Source: Own research and edition, 2024

Employment status varied, with a significant portion of participants (74 out of 101) being employed, either in the private (33%) or public sector (41%).

This distribution suggests the survey successfully captured insights from individuals across different employment backgrounds, with a strong representation from the working population. The presence of students, pensioners, herders, and the unemployed also adds diversity to the respondent base, allowing for a broader understanding of the community's employment landscape.

Correlation between factors:

Gender-education correlation: Diving deeper into the gender-education correlation, we uncover a striking trend, there's a noticeable tilt towards women when it comes to higher education. Specifically, 42 women versus 26 men have Bachelor's degrees, and for Master's, the numbers are 14 women to just 5 men. This gap isn't just a number; it tells us that women in this group are really valuing their education, perhaps mirroring a larger move towards balancing the scales in academic achievements across genders.

Age-education correlation: When shifting gaze to how age ties into education levels, the story gets interesting. The 26-35 and 36-45 age brackets stand out, boasting 28 and 26 Bachelor's degree holders respectively. This isn't a random statistic; it speaks volumes about the workforce's backbone, painting a picture of a community that's not just educated but ready and able to contribute economically.

Age-employment correlation: Peeking into the age-employment correlation offers more insights. The same age groups, 26-35 and 36-45, are the ones mostly seen in full-time gigs, across both the private and public sectors. It's like these groups are the workforce's most valuable players, showing a blend of ambition and a commitment to carving out meaningful careers.

Gender-employment correlation: Lastly, looking at gender through the lens of employment, an intriguing pattern emerges. Women, it seems, are leading the charge in the public sector with 27 to men's 14 and hold their own in the private sector too, 20 women to 13 men. This shift hints at changing dynamics, where women are not just participating but thriving in various employment arenas.

Piecing these insights together, got a vivid snapshot of the community in question. It's a tableau of how gender, age, education, and employment weave together to shape societal contours and trends. It's not just numbers; it's a narrative of progress, challenges, and the ongoing journey towards a more inclusive society.

After exploring the demographic snapshot, based on the survey, I aim to delve into local perceptions by investigating how residents rate their overall quality of life in Orkhon Soum. Figure 21 illustrates how survey respondents rate their overall quality of life in Orkhon Soum.

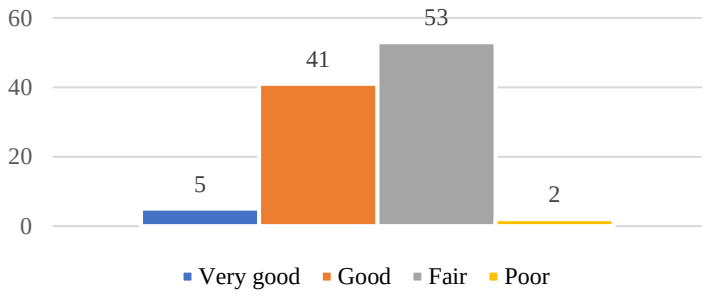

Figure 21 : Survey respondents' ratings of overall quality of life in Orkhon Soum (%)
Source: Own research and edition, 2024

The majority of respondents rated their quality of life as “Fair” (53), followed by “Good” (41). A smaller number considered their quality of life to be “Very Good” (5), while only 2% respondents rated it as “Poor”. This distribution suggests that while a significant portion of the population views their quality of life positively, there's a notable call for improvements to elevate it from “Fair” to higher satisfaction levels.

I intended to conduct a deep analysis of how demographic factors such as age, gender, and education influence these ratings. The segmentation of quality-of-life ratings based on demographic factors like gender, age, education, and employment status reveals nuanced insights into how different groups perceive their well-being.

Gender: Females report a higher medium rating (about 54%) and a lower very good rating (about 3%) compared to males. Males have a slightly higher incidence of very good ratings (about 8%) and a lower bad rating (about 2.6%) compared to females.

I used a Chi-square test to see if gender really makes a difference in how people view their quality of life. The Chi-square test for independence between gender (Male, Female) and quality of life ratings (Very Good, Good, Fair, Poor) yielded the following results:

Chi-square statistic: $X^2=1.287$, Degrees of freedom: df=3 (calculated as (rows-1) × (columns-1), where rows and columns refer to the number of categories in each variable). p-value: p=0.732

The test spat out a statistic of 1.287 and a p-value of 0.732. Now, what this means is pretty straightforward: there's no strong evidence to say that gender influences how people in Orkhon Soum rate their quality of life (*with a p-value of 0.732, significantly greater than the alpha level of 0.05, fail to reject the null hypothesis*). Essentially, whether you're a man or a woman, your view on life's quality in this place doesn't seem to be shaped much by your gender. Gender does not seem to significantly differentiate the perception of quality of life, although males rated their quality of life as Very Good slightly more than females.

Age: Younger age groups (18-25) are more optimistic, with a higher good rating (about 67%) but no bad ratings. Middle-aged respondents (26-35 and 36-45) show a diverse view, with a mix of good and medium ratings, indicating a more balanced perception of quality of life. Older age groups (56-65) show the highest bad ratings (about 20%) but also have good ratings, suggesting varied experiences or expectations of quality of life.

I tested Chi-square test, hoping to spot any patterns or trends based on age. The test gave, a statistic of 18.748 with a p-value of 0.408. It tells that much like gender, age doesn't have a big say in how people rate their quality of life in this community. So, whether you're young, hitting your prime, or enjoying your golden years, it seems everyone's on a similar wavelength about life's quality in Orkhon Soum. This insight nudges us to think that perhaps there are other factors at play influencing how residents feel about their day-to-day lives, beyond just how old they are or whether they're male or female.

Education level: Education level shows a trend where those with higher education (Bachelor's and Master's degrees) predominantly report a Fair quality of life, but this also includes the largest portion of the sample. When we zoom in on how education levels might play into how people in Orkhon Soum rate their quality of life. This time, a Chi-square test showed a statistic of 21.286 and a p-value of 0.011. This indicates that p-value of 0.011 is below the common alpha level of 0.05, indicating a statistically significant association between education level and quality of life ratings. It suggests that folks with varying educational backgrounds might see and value different things in their day-to-day, influencing their overall satisfaction or dissatisfaction with life as they know it in Orkhon Soum.

Employment Status: Those with full-time jobs (both private and public sectors) generally rate the quality of life as medium to good, indicating a relatively positive outlook. Students and unemployed respondents show a tendency towards medium ratings, with students having a notable percentage of good ratings (about 22%) and unemployed respondents showing a significant portion of good ratings (about 60%), which might reflect different expectations or experiences of quality of life based on employment status. Herders showed a 100% very good rating, but this could be due to a very small sample size and might not represent a general trend.

Using a Chi-square test, uncovered a statistic of 54.301. This big number points to a clear gap between what expected to see and what the actual responses were. Now the p-value, it's less than 0.000001. This means that the connection between whether someone is employed, self-employed, looking for work, or not in the labor force has a big impact on how they view their quality of life. It's more than just a hint; it is solid evidence suggesting that an individual's work situation is a key player in shaping how they rate their life in Orkhon Soum.

In summary, the results of this findings highlight the close relationship between Orkhon Soum's demographic factors and perceptions of quality of life. Although gender and age do not significantly affect the quality-of-life assessment, education level and employment status indicate that educational opportunities and achievements can influence how residents perceive and perceive the quality of life.

Next, I aim to identify which aspects of life in Orkhon Soum residents consider most important for their overall quality of life and to analyze how they rate these aspects. Figure 22 illustrates the priorities for quality of life in Orkhon Soum according to survey respondents.

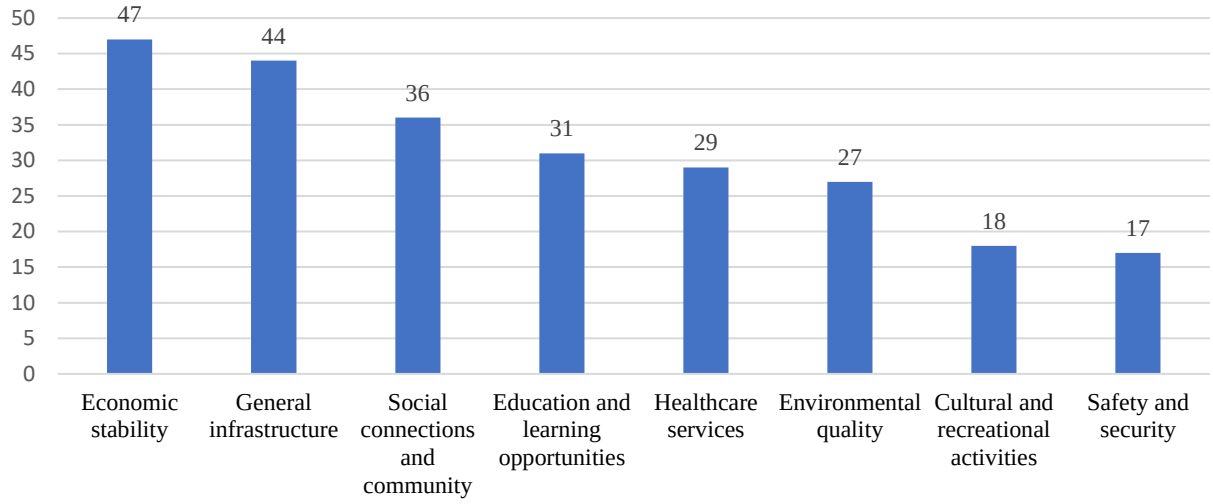

Figure 22: Priorities for quality of life in Orkhon Soum according to survey respondents (%)

Note: The main 3 factors had to be identified

Source: Own research and edition, 2024

Economic stability is considered the most important factor for overall quality of life, followed by general infrastructure (including housing), social connections and community, education and learning opportunities, healthcare services, environmental quality, cultural and recreational activities, and finally, safety and security.

Next, I conducted a detailed rating analysis to examine residents' perceptions of factors influencing quality of life in Orkhon Soum.

The survey data analysis (Figure 23) reveals that residents of Orkhon Soum prioritize security and justice the most, reflecting a strong need for safety and fairness within the community.

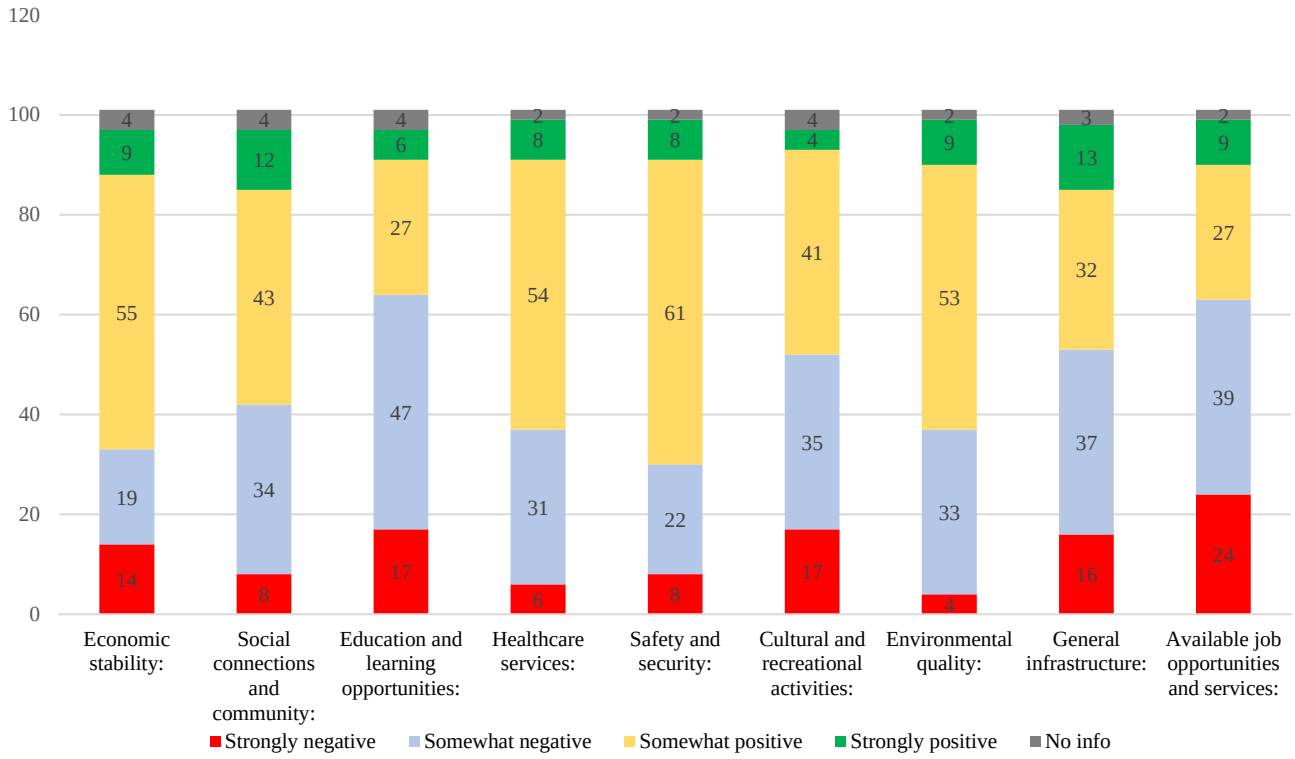

Figure 23: Residents' Perceptions of Factors Influencing Quality of Life in Orkhon Soum: A Detailed Rating Analysis (%)
Source: Own research and edition, 2024

Some of the significant priorities emerging include natural quality and health services, indicating the concerns necessary to keep the environment in its natural shape and position and ensuring that the services involved with maintaining healthy people are accessible and quality delivered. Most of these come out as essential priorities in acceptable quality of life among the economic stability and comprise significant issues concerning economic safety. The article also illustrates that the importance of social communication and strong community bonds is evidently great hallmarks under the broader considerations of community values and general development in infrastructure. Cultural and recreational activities, while quite lowly rated, are still outlets for appreciating culture and leisure among the people in the community. Education and learning opportunities are also come up on the list of rated top factors, which are essential for raising the quality of life. While available jobs and services may sit much further down the list, they are by no means an afterthought, thereby underscoring their role in the more significant piece of community well-being.

Analysis by Education level: In Orkhon Soum, how educated people are influences what they think makes life good. Bachelor's degree holders value things like jobs, community, and health similar to most folks but aren't as worried about the environment as those with vocational training. High school grads seem to rate life's good stuff lower, hinting at different life views. Master's grads line up with common opinions, especially valuing safety, a clean environment, and health care. Vocational education holders, though, prioritize economic stability more, suggesting that how people see a good life varies with their level of education.

Analysis by Gender: Looking at how men and women in Orkhon Soum view what makes life good, we see some differences. Men put a bit more stock in health services than women, hinting they might value healthcare quality and getting to a doctor easily a bit more. When it comes to feeling safe and believing in fair treatment, both men and women think it's important, but the small differences in how they rate it could reveal different views on their community's safety and justice. And on the education front, guys seem to value opportunities to learn and advance their education a tad more than the ladies.

Analysis by Age: The breakdown by age groups in Orkhon Soum shows how different generations weigh aspects of a good life differently. The value placed on job availability and services seems to climb with age, hitting a high in the 46-55 bracket, then dips a bit afterward. Younger folks (18-25 and 26-35) seem to have their own take on the importance of environmental quality, possibly differing from older generations. And as people age, their concern for health services ramps up, pointing to a heightened focus on health matters among the more senior residents.

I analyzed how age influences perceptions of quality of life in Orkhon Soum using Spearman's Rank Correlation coefficient (ρ) and SPSS. It looked at views on things like how much money folks feel they need, the state of roads and bridges, job availability, having fun cultural stuff to do, and keeping the environment clean. What popped out was interesting: as people get older, they start to put more value on having enough money ($\rho=0.33$, $p<0.05$), good public facilities ($\rho=0.27$, $p<0.05$), and enough jobs around ($\rho=0.31$, $p<0.05$). But when it comes to enjoying culture, arts, and making sure the planet's in good shape, age didn't really change how much people cared ($\rho\approx0.13$, $p<0.05$), though there's still a slight tilt towards valuing these more with age.

This points out that as folks age, their focus shifts more towards economic and practical needs, while still keeping an eye on enjoying life and looking after the environment. It's a call to those

planning for the community to remember that different ages have different needs, especially highlighting that the older crowd really values economic stability and solid infrastructure, without forgetting the importance of cultural vibes and green living for everyone.

I searched into the Point-Biserial Correlation coefficient to dig into how men and women in Orkhon Soum might see life's good bits differently. I zoomed in on how much they value education and learning, cultural and recreational fun, a clean environment, and solid infrastructure.

It seems one gender slightly edges out the other in placing importance on education opportunities and cultural activities ($\rho=0.19$ and $\rho=0.17$, respectively, $p<0.05$), hinting at a bit more enthusiasm there. On the flip side, when it comes to keeping the environment pristine and ensuring the community's backbone is strong, there were slight leans away by one gender ($\rho=-0.08$ and $\rho=-0.07$, respectively, $p<0.05$), but nothing too dramatic.

To gain a deeper understanding of Orkhon Soum, I conducted a survey with the question: "*What are your main impressions about Orkhon Soum? Please write the first three ideas or words that come to mind.*" This inquiry is aimed at capturing the immediate thoughts, perceptions, and feelings of respondents towards Orkhon Soum, providing insightful glimpses into the collective sentiment and characterizing features of the area as perceived by its inhabitants and visitors.

To generalize, compress the main impressions of Orkhon Soum, an impact survey. Most importantly, the following were the essential issues: Agriculture and farming were the most noted, with about 45% of the population attesting to the general view that fertile land is usually maximally put under the cultivation of all kinds of crops, from fruits and veggies to potatoes. In the meantime, vegetable growing has been considered an integral subsistence and supplying branch, along with animal husbandry and beekeeping, indispensable for population support to the neighboring city, Darkhan. Of the total responses, 18 % very positively acknowledged the environment and quality of life. Natural beauty, clean air, and quiet living conditions all paint a favorable picture of the environment for living and working in Orkhon Soum. The radar also includes economic development and infrastructure at 15%, with acknowledgment of the great potential of the area concerning growth, its critical location about Darkhan, and connections by roads and railways, among others, not forgetting the great strides made in infrastructure and local businesses. 8% of the respondents brought in an aspect of community and society with mixed feelings, pointing out the slow pace of development on one side and the hardworking nature of the population on the

other. In summary, Orkhon Soum is predominantly appreciated for its agricultural productivity and quality of life, with optimism toward its economic development and a mixed view on social aspects.

Next, I aim to investigate the advantages of Orkhon Soum, focusing on identifying and analyzing the key benefits and strengths that the region offers to its residents and visitors.

A strengths survey of Orkhon Soum pointed out several highlighted strengths by the respondents. Most importantly, 45% of the respondents elaborated on the area's agricultural strengths, such as land fertility and productive abilities in vegetable and fruit cultivation which is a tradition of generations. Another 24% valued infrastructure and accessibility in the roads and railways kept in good condition, with their moving service centers, making movement easy. Another 12% of the respondents agreed to the quality of nature and the environment. They have indicated that the soil instigates thriving agriculture, but also the rich sky and beautiful environment. Finally, the appeal to production and economic development was 10% of the respondents. They stressed that the strong production capabilities, coupled with decent working conditions and strategic market proximity, were all sunk in a commitment to quality management. In summary, it can be stated that Orkhon Soum has an excellent agricultural capacity, effective infrastructure, a natural quality environment, and potential possibilities to develop its economy.

Following this, I aim to investigate the disadvantages of Orkhon Soum, focusing on identifying the challenges and limitations that the area faces, which could impact the quality of life and economic development of its residents and businesses.

The survey on Orkhon Soum's disadvantages identifies several key challenges across governance, economic development, infrastructure, labor, and agriculture, from 101 respondents:

Some 10% of the respondents cited bad leadership and weakness of governance among the governance and planning issues. Economic and developmental problems cited by 24% of the respondents were mainly underdevelopment, scarce jobs, and lack of facilities. On the other hand, infrastructure, housing, and service issues included poor infrastructure and inadequate education and health services, which focused 29% on this. Some 10% mentioned the factors like conditions of labor and skills shortages affecting productivity, and featuring 7% for agriculture and livestock conditions that are caused by limited land and harsh natural conditions. In summary, Orkhon Soum faces diverse challenges that necessitate comprehensive strategies for governance, economic

development, infrastructure improvement, labor market enhancement, and agricultural support to mitigate these disadvantages.

Following this, I explore the main problems of Orkhon Soum, focusing on comprehensively understanding the primary issues and concerns that affect the residents and hinder the area's overall development and quality of life. Figure 24 illustrates the main problems in Orkhon Soum according to survey respondents.

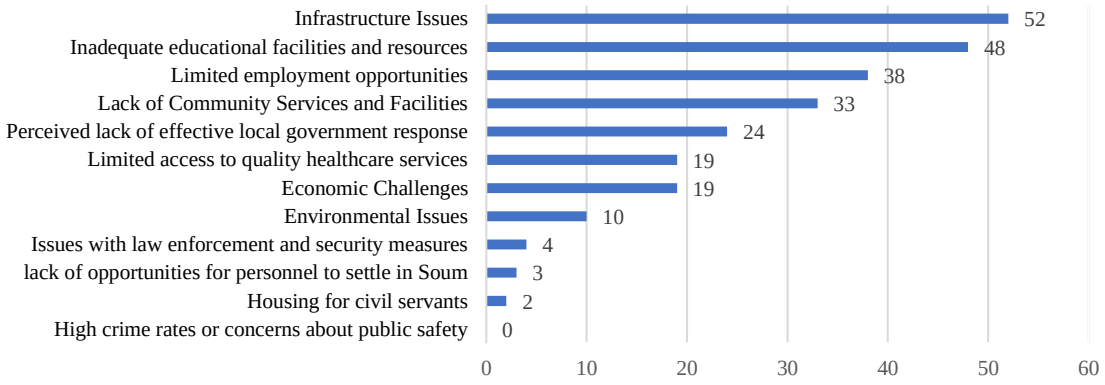

Figure 24: Main problems in Orkhon Soum according to survey respondents (%)
Note: The main 3 problems had to be identified
Source: Own research and edition, 2024

Key identified issues facing Orkhon Soum, among others, include infrastructure at 52% of respondents, education at 48%, and employment at 38% in the survey. There were also hiccups in community services (33), government responsiveness (24), the economy (19), and healthcare (19), compared to other major critical national issues, such as environmental (10) and law enforcement (4). However, housing and settlement opportunities for personnel were mentioned minimally. The feedback from the community underscores pressing needs in many areas that need to be improved to better the quality of life.

As another main goal, I aimed to investigate, based on the second research question, what factors contribute to residents' satisfaction or dissatisfaction with their circumstances in Orkhon Soum. In the Orkhon Soum satisfaction survey (Figure 25), a clear picture emerged on community concerns and potential areas for enhancement, detailed through respondent numbers.

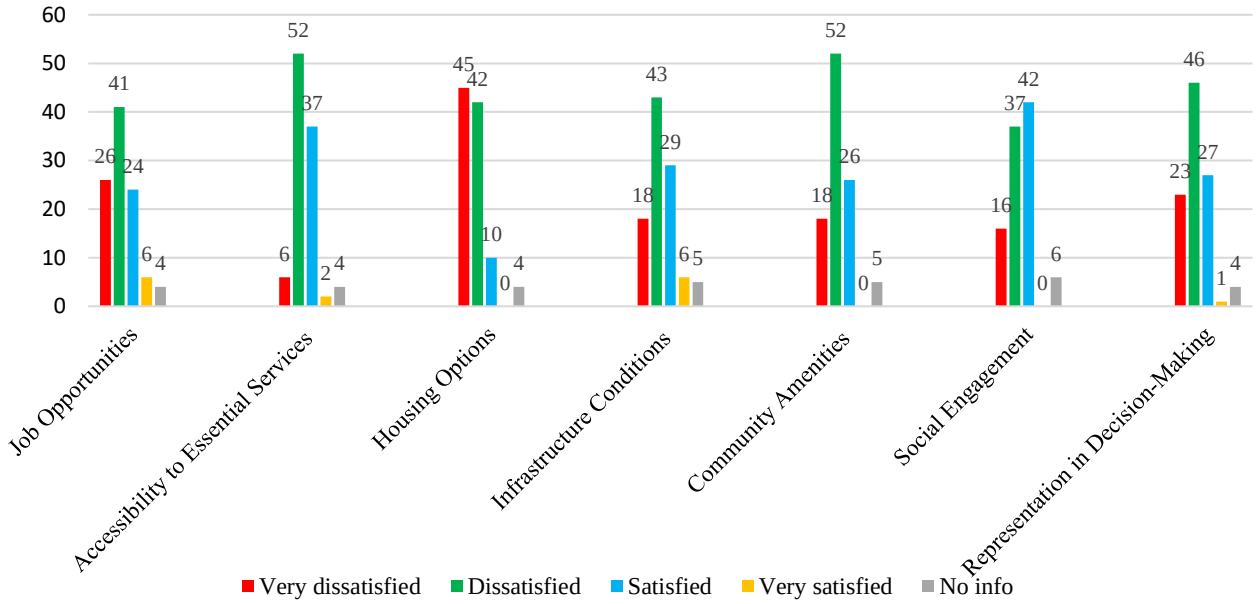

Figure 25: Respondent's satisfaction for various factors in Orkhon Soum (%)
Source: Own research and edition, 2024

On the issue of job opportunities, dissatisfaction was relative to at high levels, whereby 41% of the respondents were dissatisfied, and another 26% were very dissatisfied. This was pointing at a familiar feeling on matters related to employment opportunities. Then, it was realized that, with an area that concerned the necessity of services such as health and education, a division was clearly drawn: 52% expressed dissatisfaction, while 37% felt satisfied. This brought about some kind of a mix-up in the feelings on the matter. The most critical challenge was housing. There was some tendency to dissatisfaction, and no respondent felt that they were very satisfied. This points to a critically big problem in satisfaction with the availability and quality of housing. The infrastructure too was a kind of a split verdict; 29% found themselves satisfied, leading to potential areas of improvement. Community amenities were no different; most were very dissatisfied, but an appreciable proportion was dissatisfied, reflecting better expressions towards some aspects of community life being valued. Social engagement provided a brighter view, with 42% satisfied compared to those dissatisfied, reflecting a generally positive view related to social activities and ties in the community. Representation in decision-making presented dissatisfaction, where very few were left satisfied and were rather prevalent, pointing to significant concern for community voices being heard in local governance.

The results from the survey, therefore, bring into sharp focus critical points like employment, housing, and representation while indicating the sectors from where the community sees its value through the precise distribution of respondent numbers.

- ✓ There is a significant concern on job opportunities and housing; dissatisfaction has been reported in both areas.
- ✓ Accessibility of essential services to the relation of infrastructure quality and community amenities gave a mixed feeling that could point to areas where, with improvement, overall satisfaction would be better.
- ✓ Social engagement shows a more positive outlook, suggesting that people feel relatively good about their ability to engage with the community.
- ✓ The better representation in decision-making indeed shows the dissatisfaction and needs inclusion to increase the voice of the community.

Let me take up the third research question: How has the outmigration trend of the Orkhon Soum, Darkhan-Uul Aimag evolved over the last decade? This will be achieved by the determination of patterns and motives of migration from the area, trends over time, and impacts it has caused to the host community and local economy. The research conducted among the residents of the Orkhon Soum, coupled with Figure 26, indicated migration trends and experience significant outmigration within the community.

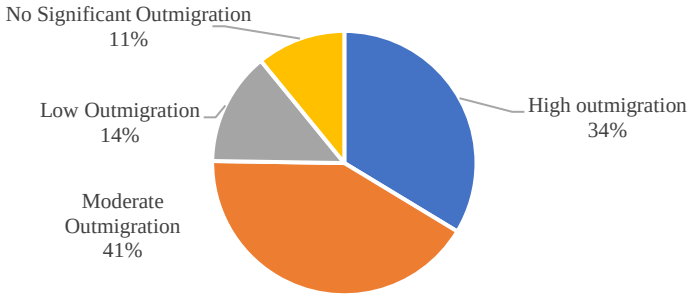

Figure 26: Outmigration Trends in Orkhon Soum among respondents (%)
Source: Own research and edition, 2024

A significant majority (75%) of the population is experiencing some degree of outmigration, with 34% experiencing high outmigration and 41% experiencing moderate outmigration. Only 25% of the population experiences low or no significant outmigration, indicating that outmigration is a prominent issue for the majority of the Orkhon Soum community.

Now that we've examined migration trends, let's explore the contributing factors to outmigration patterns in Orkhon Soum. Figure 27 shows the contributing factors to outmigration patterns in Orkhon Soum, based on survey responses.

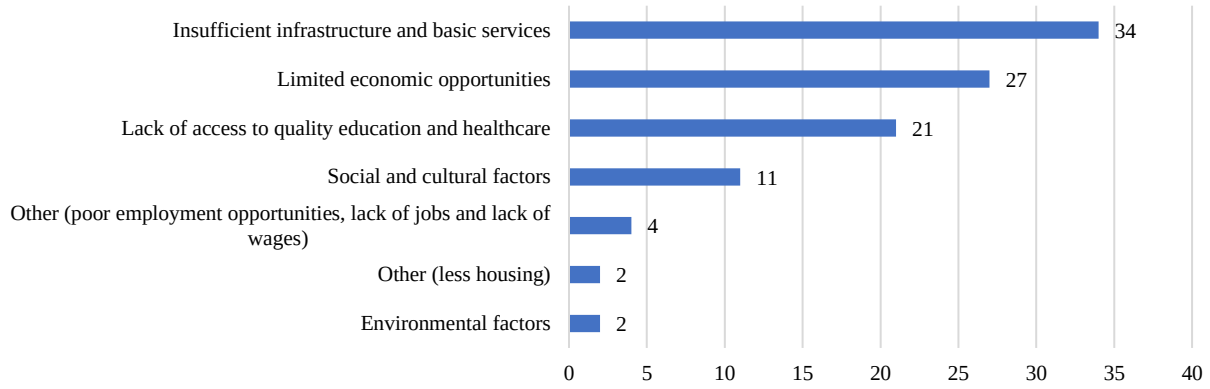

Figure 27: Contributing Factors to Outmigration Patterns in Orkhon Soum, Based on Survey Responses (%)

Source: Own resource and edition, 2024

Economic factors, especially the availability and quality of jobs, ranked high in the majority of the responses (limited economic opportunities and other related employment issues), summing up to 31% of responses (27 for limited economic opportunities and 4 for other employment-related problems). It means that the financial condition of the place, especially the availability and quality of work, had pushed the outmigration trend. Notably, 34% of responses point to insufficient infrastructure and essential services as a significant issue, while 21% underline the lack of quality education and health access as another critical factor. These are key services that influenced family decision making on where to live in terms of impacting long-term prospects and quality of life. With 11%, these might have also contributed to decisions for migration: community bonds, cultural disconnect, or social isolation, but at a lower percentage compared to economic and infrastructural challenges. All in all, these suggest some of the least-cited factors; however, it would be logical to think that while they may play a part, they are not the significant drivers of out-migration in the area.

It looks like the leading causes of outmigration from Orkhon Soum are mainly economic hardships and infrastructure deficiencies. The main areas which need work to develop outmigration from Orkhon Soum are but are not limited to, economic opportunities, quality employment, and infrastructure development.

With this, the highest response rate (34%) shows that the lack of infrastructure and essential services is one of the most significant pull factors of out-migration, leading to the exploration of critical areas relating to infrastructure improvement that may positively impact the quality of life for residents in Orkhon Soum (Figure 28).

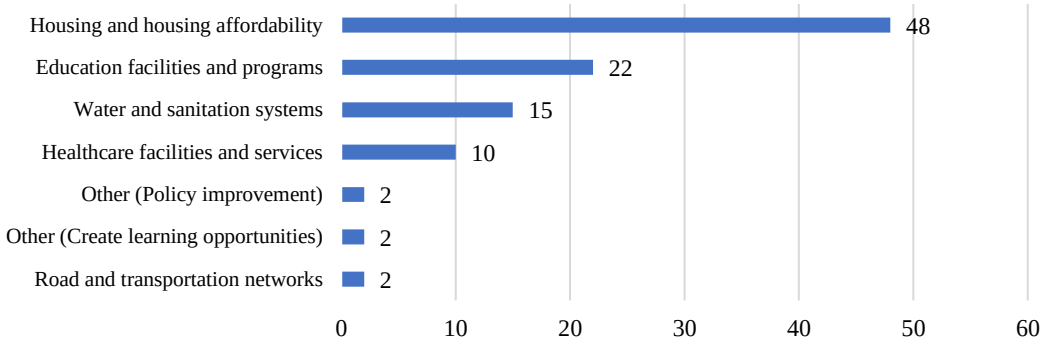

Figure 28: Critical Infrastructure Improvements for Enhancing Living Conditions in Orkhon Soum (%)
Source: Own research and edition, 2024

Housing and housing affordability, with responses from 48% of the respondents, are the most significant critical areas and bring forward the most important concerns and drivers related to housing-related issues of quality, availability, and affordability. Improvements here could make the area more attractive to current and potential residents. Educational facilities and programs showed another paramount need in the community, 22% of the responses, to raise skills, job opportunities, and community growth. Water and sanitation systems were noted by 15% of the respondents as being very necessary to human hygiene and health, with the promise of immediate health benefits if improved. 10% of the respondents reported that health facilities and services are of the essence that will enable them to enhance the well-being of the people and further make the community more resilient. Only 2% reported the roads and transportation networks; however, they are vital in aiding access to work and economic opportunities in the more prominent regions by connecting the community with the more prominent areas. Lastly, those of learning opportunities and policy improvement, each with 2% of the responses, highlight a more extensive scope of learning opportunities and support from policy frameworks for community development and resource access. Above all, the first priority should be the building condition of housing and the affordability of housing; this is the subject that most worries residents. Further, in the education, water, and

sanitation systems, and investment in all these will be important ways that further improvement in quality of life and better stability among communities will be realized.

In Orkhon Soum, various factors influence residents' decisions to migrate or stay, with economic, social, and cultural components playing significant roles. The figure 29 illustrates the factors influencing their decision to migrate from Orkhon Soum and their potential to encourage them to stay.

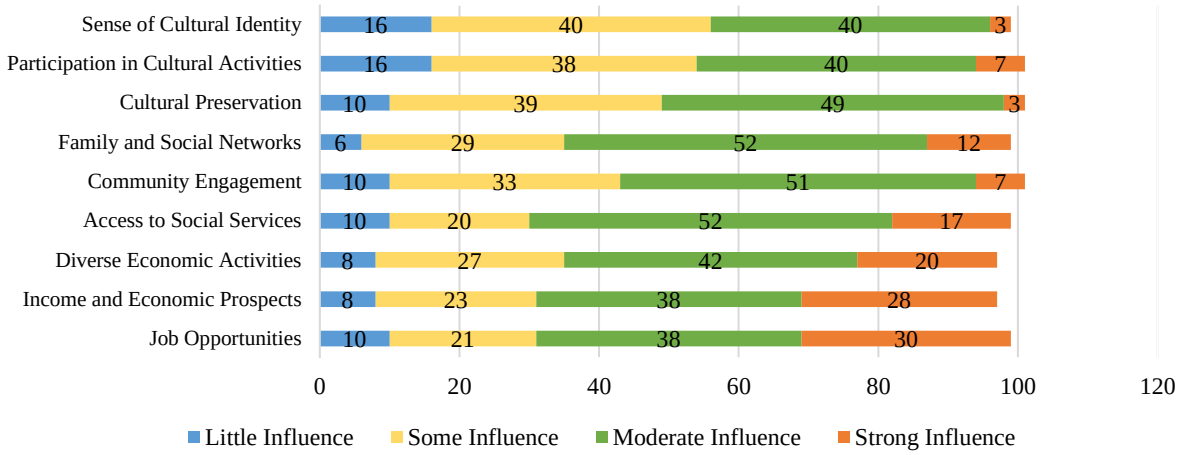

Figure 29: Factors Influencing Migration Decisions and Retention in Orkhon Soum (%)

Source: Own research and edition, 2024

Economically, job opportunities have solid or moderate influence for the majority 68%, while income prospects follow closely. It will appear that the diversity of economic activities is essential, with more than 40% citing this as a moderate influence. Socially, influence from services and the community is moderate among over 50% of the participants, precondition: social infrastructure and relations have a significant bearing. Equally, family and social networks play a significant role in the factors that sway decisions to stay. Culturally, the aspect of cultural preservation is relatively vital. The majority has moderate influence, and few have a negligible impact. Partaking in cultural activities that include having cultural experiences and feelings of cultural identity has a similar effect on the resident's choice, thus revealing the attachment to the community through the dynamics of culture. Together, these collectively inform migration and residential stability patterns. They, in turn, together signal areas of intervention to be made to retain and attract residents in Orkhon Soum.

To derive how much these factors influenced migration or better, the sum of the potential factors was averaged to encourage residents to stay. A weighted average for each factor was calculated.

Economic Factors:

- Job Opportunities: 2.89
- Income and Economic Prospects: 2.89
- Diverse Economic Activities: 2.76

Social Factors:

- Access to Social Services: 2.77
- Family and Social Networks: 2.71
- Community Engagement: 2.54

Cultural Factors:

- Cultural Preservation: 2.45
- Participation in Cultural Activities: 2.38
- Sense of Cultural Identity: 2.30

Economic factors seem to have the highest impact at about 2.89, especially concerning job opportunities and the prospects for income. This shows that, really, they are of importance, and it would seem the improvement of these areas would help in keeping the population from moving away by providing steady work in better economic conditions.

The social factors are not far behind. They scored at or above 2.7 in access to social services and strong family and social networks. Building up social infrastructure and reinforcing community ties would also encourage many people to stay on.

Cultural factors mattered less when the sense of cultural identity scored lowest at 2.30, and efforts to preserve culture scored at 2.45. Yes, cultural factors do matter, but they may not be as essential as those touching on the economic and social planes. This is more so in keeping the community together and making everybody feel they belong.

To sum up, boosting economic conditions and social services would be the best bet for dealing with migration issues. Cultural factors, while not as critical, still add to life quality and community happiness. These insights could help shape policies and community initiatives aimed at making the

area a more appealing and sustainable place to live, so that residents are more likely to stay instead of moving away.

Lastly, I aim to explore the potential drivers of economic development in Orkhon Soum by categorizing survey responses into key sectors and identifying focal areas within these sectors, supported by the number of respondents endorsing each area.

Analysis of the responses to "*What activities/sectors could serve as the basis of local economic development?*" identified in the bases of local economic development in Orkhon soum, they are categorized into various sectors with specific areas of focus within those sectors identified and the number of respondents that endorsed them.

Agriculture and livestock is the most prominently identified sector, with a total of 39% of respondents indicating its importance. Some firmly attached beliefs seem to be associated with traditional economic activities, such as farming and livestock, making the backbone of the local economy in Orkhon Soum.

Employment and economic policies are also seen as crucial, with 20% of respondents highlighting the need for increasing employment, establishing permanent positions with standard salaries, and workplace stability (16%). There's also a mention of economic stability and the promotion of a green economy to enhance traditional farming (2%), alongside a call for policies supporting low-interest, long-term loans (2%).

Industrial and service sectors receive attention from 16% of respondents, suggesting a balanced development approach that includes both manufacturing (factories, mentioned by 4% of respondents) and services (10%), with a minor note on supporting small and medium enterprises (2%). This points to an acknowledgment of the importance of diversifying the local economy beyond agriculture to include other sectors that can provide employment and services to the community.

Education and training and infrastructure and housing are identified by 11% and 10% of respondents, respectively, as key areas. While planning and land utilization, alongside good management, are underscored as key for sustainable growth and resource efficiency, technology and innovation receive minimal attention, reflecting a preference for immediate economic

foundations over futuristic investments, and a notable fraction of respondents show a need for enhanced understanding and community involvement in economic development strategies.

Figure 30 presents respondents' perceptions of various factors' potential for driving local economic development in Orkhon Soum, rated on a scale from 1 to 4, where 1 is 'Least Potential' and 4 is 'Highest Potential'.

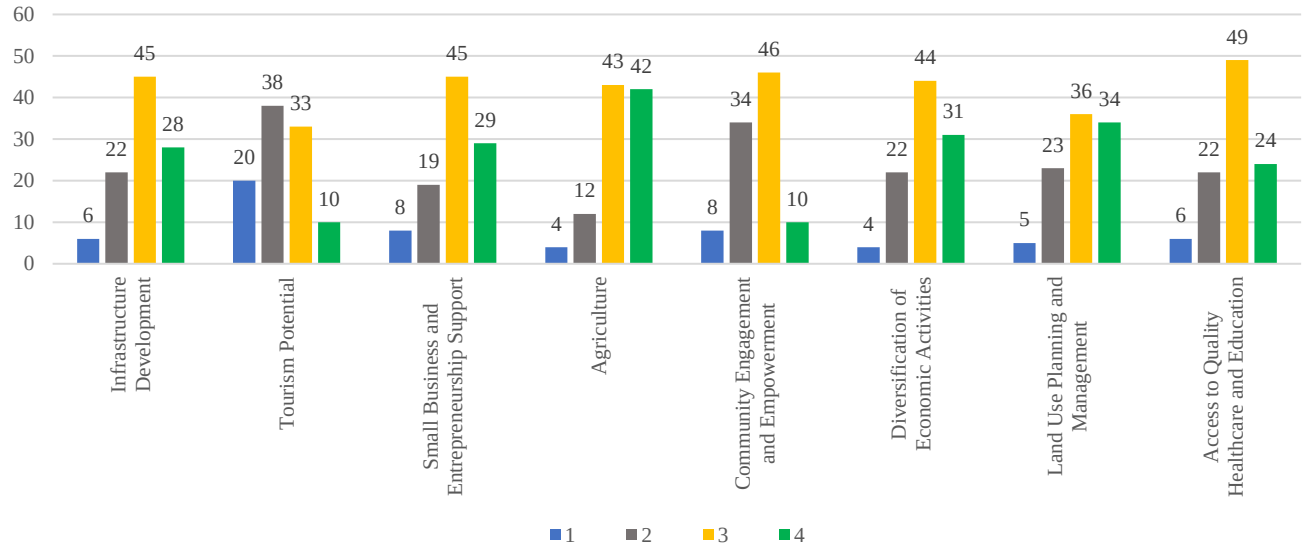

Figure 30: Evaluation of Factors for Economic Development Potential in Orkhon Soum (%)

Note: on a Scale from 1 to 4 (where 1 = least potential….4 = highest potential)
Source: Own research and edition, 2024

Most respondents (42%) rated agriculture as having the highest potential (4 out of 4) for driving local economic development. This underscores the central role that agriculture plays in Orkhon Soum's economy and the strong belief in its growth and development potential. Support for small business and entrepreneurship also received significant endorsement, with 29% of respondents giving it the highest potential rating. Additionally, the diversification of economic activities and strategic land use planning and management were highly rated, indicating a consensus on the need for a varied economic base and strategic use of land to foster economic growth. These factors had a high number of ratings at the highest potential level (31 and 34, respectively), highlighting their importance in achieving sustainable development. Infrastructure development receives a broad range of responses but still enjoys a 28% high potential rating. This underscores the recognition of infrastructure as a fundamental enabler of economic activity and growth. Similarly, access to

quality healthcare and education is considered important, with 24% of respondents rating its potential as high (4 out of 4). Community engagement and empowerment, as well as tourism potential, receive the lowest ratings for their highest potential, suggesting a more cautious or nuanced view of these factors' roles in local economic development.

To clarify the data further, I computed the weighted average for all factors across the four-point scale (from 1 to 4). This calculation provides a single number that represents the overall potential of each factor as perceived by the respondents, effectively accounting for the distribution of responses across all potential levels.

$$Weighted\ Average = \frac{(1 \times Count\ of\ '1') + (2 \times Count\ of\ '2') + (3 \times Count\ of\ '3') + (4 \times Count\ of\ '4')}{Total\ Responses}$$

Figure 31 shows weighted average evaluation of economic development factors in Orkhon soum based on survey responses.

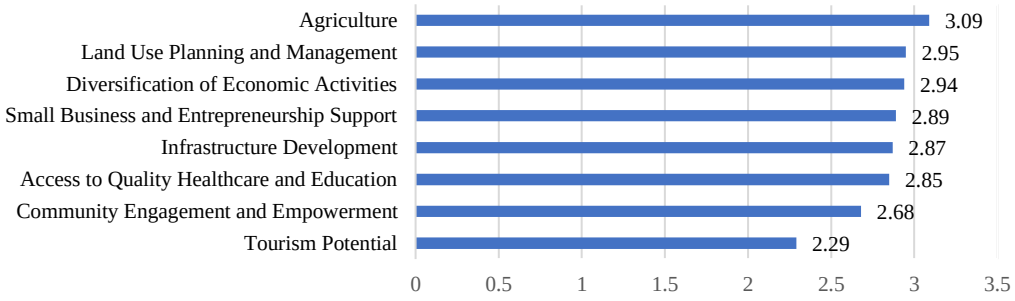

Figure 31: Weighted average evaluation of economic development factors in Orkhon soum (score)

Source: Own research and edition, 2024

The analysis reveals that Agriculture (3.09) holds the highest potential for driving local economic development in Orkhon Soum, followed closely by Land use planning and management (2.95), and diversification of economic activities (2.94). On the other end, tourism potential (2.29) was rated as having the lowest potential.

The analysis indicates that agriculture possesses significant potential to propel economic development in Orkhon Soum. In pursuit of validating this hypothesis, a survey was conducted with the question: “In your opinion, can agriculture serve as a viable avenue for local economic development in Orkhon Soum?” The results affirmatively support the proposition, with a notable majority of participants acknowledging the role of agriculture in fostering local economic growth.

Specifically, of the respondents surveyed, 56% strongly agreed, and 37% somewhat agreed with the potential of agriculture to drive economic development in the region (Figure 32).

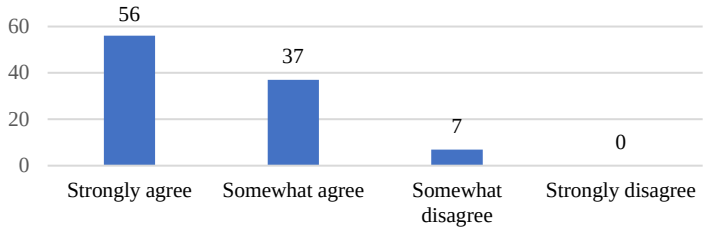

Figure 32: Survey Responses on the Viability of Agriculture for Economic Development in Orkhon Soum (%)

Source: Own research and edition, 2024

About 93% of the respondents strongly agree and somewhat agree that agriculture is one of the driving forces of economic development. The resistance to focusing on agriculture as a means of local economic development in Orkhon Soum was weak. Only 7% somewhat disagreed, and there was no strong disagreement among them. This shows that the support for focusing on agriculture as the primary key area of local economic strategy is vital. This was the case, as a standard view expressed by all respondents, which not only shows a well-perceived role of agriculture in economic growth but further motivates to explore specific factors that may have played their role in influencing its success as a developmental tool.

Residents of Orkhon Soum perceive agriculture as a pivotal driver of economic development, demonstrating robust support for the sector. This leads to the question: What are the key determinants that influence the potential of agriculture as a catalyst for local development in Orkhon Soum? Figure 33, titled “Survey respondents' perspectives on key determinants of agricultural potential in Orkhon Soum,” visually represents these insights.

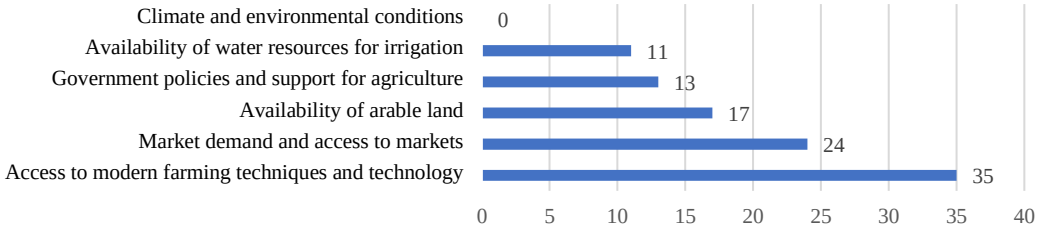

Figure 33: Survey Respondents' Perspectives on Key Determinants of Agricultural Potential in Orkhon Soum (%)

Source: Own research and edition, 2024

Survey respondents' view on the key factors contributing to agricultural development in Orkhon soum:

- ✓ Access to modern techniques and technology in farming (35%): Most of the respondents who participated in the survey thought that this is the most critical area, and identifying innovation and efficiency as drivers for the enhancement of productivity.
- ✓ Market demand and access to markets (24%): This highlights how meaningful the economic relationship, coupled with market demand and access, is for the profitable sale of agricultural produce.
- ✓ Availability of arable land (17%): That is, one of the basic requirements to farm is the availability of land, showing how crucial it is for carrying out agricultural ventures.
- ✓ Policies and government support to agriculture (13%): It is treated to be very important since the environment for agricultural activities reflects the hand of the government in fostering agricultural development.
- ✓ Irrigation water resources (11%): Expected to be very important in ensuring a continuous crop production, especially in areas where it may be realized that rainfall could be erratic.
- ✓ Climate and environmental conditions (0%): Interestingly, the climate and environmental conditions were not factored as a limitation from the survey respondents, indicating highly favorable perceived market conditions or a current focus on other more controllable factors.

Building on this, it is important to identify which agricultural activities are most instrumental for economic growth in Orkhon Soum. Figure 34 from a survey conducted in the region emphasizes that farming and crop production are seen as pivotal. An overwhelming 80% of respondents identify these activities as the cornerstone of the sector's growth.

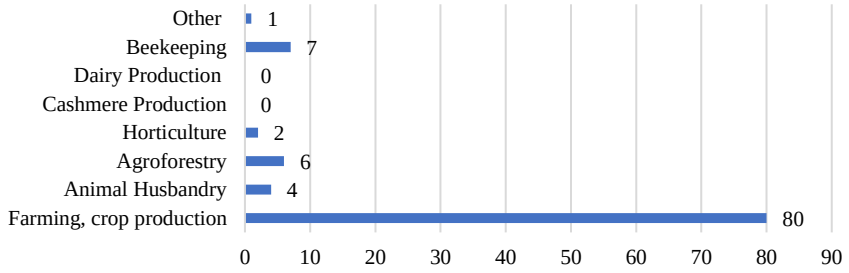

Figure 34: Priority Agricultural Activities for Economic Growth in Orkhon soum: Survey Insights (%)
Source: Own research and edition, 2024

Surprisingly, second comes beekeeping with 7% of the votes, which reflects its importance not only in the pollination process but also in honey production. Agroforestry follows closely, with secured votes of 6%, realizing dual environmental and economic benefits: agroforestry boosts biodiversity, hence aiding improved soil health. Meanwhile, animal husbandry and horticulture have gained lesser roles, receiving 4% and 2% of the votes, respectively. Another vote in favor of having fruit trees grown under the category of other would suggest a marginal but perceptible interest in the diversification of agriculture. The absence of specific nods to traditional sectors such as cashmere and dairy production could suggest a changing landscape of economic priorities or growth potentials within soum agriculture.

Lastly, it would be of the essence to consider what indeed has been the significant challenge to the development of agriculture within Orkhon soum. This would go a long way in ensuring that this research is at a point of determining precisely the challenges that are evidently in the way of the full economic potential of the agriculture sector in this region.

Figure 35 shows main challenges hindering agricultural growth in Orkhon Soum based on survey respondents.

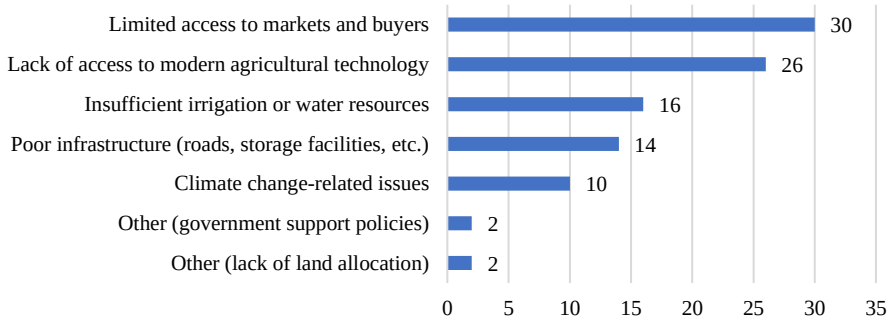

Figure 35: Survey Respondents' Identification of Main Challenges to Agricultural Growth in Orkhon Soum (%)

Source: Own research and edition, 2024

Survey results from Orkhon Soum pinpoint a complex web of main challenges hindering agricultural growth:

- ✓ Market Access, identified by 30% of respondents as the major challenge, points to the fact that if farmers cannot reach out to the markets or buyers, however productive they may be, then obviously growth and earnings will have to be restricted.

- ✓ Just at 26% is the lack of modern farming technology, which signals an efficiency and productivity gap that points to a requisite need for investment in new agriculture tools and methods.
- ✓ Water resources are accounting for 16% of the concerns, critical obstacles, pointing to water scarcity and poor infrastructure for irrigation, most so in areas prone to disasters or labeled water stressors. Effective water management in agriculture is, therefore, a requirement in case there is to be consistent output from the agricultural sector.
- ✓ In this regard, the infrastructure issues, cited by 14% of respondents, including poor roads, storage, and other essential facilities; they have been identified as critical inhibitors affecting the whole agricultural chain from production to market delivery, therefore underlining the point that more infrastructure-oriented improvement is needed.
- ✓ Among the other challenges, 10% of the respondents reported the challenges brought about by the climate changes in unpredictable weather patterns and harsh conditions that lead to decreased conditions for sustaining and enhancing agricultural productivity.
- ✓ Among the administrative challenges, a few responses pointed out that land allocation is not enough (2%) and calls for better policies supported by the government (2%), which makes a reflection on other administrative and policy barriers that also need attention.

The array of identified challenges underscores that a holistic strategy is necessary to overcome Orkhon Soum's agricultural growth impediments, with focuses on enhancing market connectivity, adopting modern agricultural technology, improving water and infrastructural management, and developing strategies to combat climate change, complemented by sound land and policy governance.

Based on the survey, the analysis delves into key dimensions affecting quality of life and economic dynamics in Orkhon Soum. It identifies residents' priorities in life quality and examines how these are influenced by demographics such as age, gender, and education. The study also explores factors affecting resident satisfaction and investigates outmigration trends and economic drivers over the past decade. Then, I aim to analyze identifying key stakeholders-such as local government, businesses, community leaders, and international investors-and evaluating their roles and interests in fostering the local economy.

Respondents were asked to rank who holds the primary responsibility for improving local conditions in Orkhon Soum, using a tiered system with categories I, II, and III. In this ranking, Category I is assigned 3 points, Category II receives 2 points, and Category III receives 1 point. The weighted averages were then calculated from these rankings to quantify the perceived responsibility for improving local conditions in Orkhon Soum based on the survey results.

The weighted averages calculated from the survey results, based on perceived responsibility for improving local conditions in Orkhon Soum, are as follows (Figure 36):

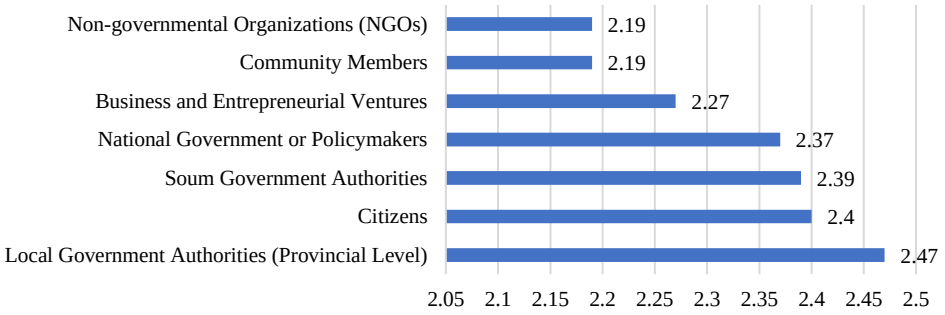

Figure 36: Primary Responsibility for Improving Local Conditions in Orkhon Soum (score)

Source: Own research and edition, 2024

Local government authorities (Provincial level) are humanly seen to have the highest accountability in local condition improvement, where they obtained ranked position I with 2.47 weighted averages. This has been evidenced by the community within the local, who expects much in terms of actions and changes from officers at the provincial government level.

Equally, the Soum government authorities and citizens share substantial perceived responsibility, with weighted averages of 2.39 and 2.40, respectively. The close scoring would indicate that both the more localized government and the citizens themselves are seen as crucial in driving and supporting improvements.

Business and entrepreneurial ventures and National government or policymakers held perceived responsibility at moderate levels with averages around 2.27 and 2.37, reflecting an expectation of economic stakeholders and higher-level policies to contribute to local improvements. Community members and Non-governmental Organizations (NGOs) have the lowest weighted averages (2.19 each), suggesting a lesser, though still important, role in spearheading local development efforts.

Overall, these results underscore a broad expectation for multiple stakeholders to participate in improving conditions, with a strong emphasis on governmental levels from local to national, supplemented by active citizen and business involvement. This suggests a comprehensive approach is needed, where responsibilities are shared across various societal sectors to effectively address the community's needs.

4.3. Results of the interview

After analyzing the data of the survey administered to the residents, summarize the data collected from the interviews held with the key officials of Orkhon Soum, which primarily address the expressed views by the local authorities regarding different trends in the region: economics, social, environment, infrastructure, and quality of life.

For the interviewees, there is an experience and background they bring to their positions: Gonchig brings in his local legislative roles and expertise of being Governor of Enkhtal bag for five months. For the last two years, Altanzul has been the focal person with the bag of the Governor of Bayan Ulziit, focusing on agricultural development and resilience. Delgerjargal has led the Head of the Governor's office for over 14 years at Orkhon soum and brings with her a focus on investment in local infrastructure and agriculture. Batchimeg, recently promoted head of finance department of the Governor's Office of Orkhon Soum, brings five years of experience from the public sector with a focus on improving living standards through agricultural and infrastructural improvements.

After these were analyzed and responses were collected from the interviews, several major themes were identified.

Interviews with key officials in Orkhon Soum alluded to the fact that agriculture has a crucial role in local economic development as a catalyst, which is highly highlighted as a necessity by recent expansions in crop farming and beekeeping. The prevailing human factor is agriculture; however, the development of industries remains at a meager rate in the area. This, therefore, underscores the region's focus on the steps of agriculture, including further modernization and development to increase the local economy. Governor Gonchig, noted the necessity to raise a smaller number of more productive livestock because of overcapacity and climate change. Governor Altanzul emphasized that vegetables should be introduced in the country due to the economic profit when selling at high costs and importance.

Population stability is maintained with a working-age majority, although challenges in education and healthcare persist.

The interviewees consistently pointed out that climate change affects agricultural productivity and social life. Gonchig referred to the fact that environmental degradation affected traditional lifestyles. Delgerjargal referred to ongoing desertification and how greening and planting trees were carried out to reverse environmental degradation.

From the conducted interviews, the respondents agree that the strengths of the region have a basis in the following: vital areas in agriculture and management with experience and extremely well-established transport infrastructure. However, the region's weaknesses, as indicated by the respondents during the interviews, included vulnerability to climatic change, few public services, and underdevelopment in industry. There are immense possibilities that include opportunities for tourism, the exploitation of local agricultural products, and benefiting from infrastructural development financed by the government. However, the thing to be considered is the 'always there' threat of the unpredictability of climate change, outmigration, and, most importantly, economic instability because of external dependencies.

This is mainly based on key findings from interviews confirming that satisfaction with living in Orkhon Soum is based entirely on factors such as availability of jobs, accessibility of services, conditions of infrastructure, and community facilities.

- ✓ Job Availability: The primary source of employment comes from the highly dominant level of economic activities in the agricultural sector. Nevertheless, the need for diversification and development is essential about the other mentioned and existing sectors, such as tourism and manufacturing, among others.
- ✓ Service Accessibility: Though some sectors, like agriculture, do show improvement, most of these areas, including education and health services, have accessibility as an area critical for overall satisfaction.
- ✓ Infrastructure Conditions: The officials appreciate that the residents cannot get proper livelihood without the improvement of infrastructure. Most developing changes are highly monitored and awaited, especially those of roads, schools, and health facilities.

- ✓ Community Amenities: Perhaps some of the assets of both the potential for tourism and those of the natural environment, considered underused, could be potential community amenities and possibly economic prospects.

The residents' satisfaction level in Orkhon Soum is highly interrelated with a set of necessary factors: the availability of jobs, accessibility to services, the state of infrastructure, and the provision of amenities for the community. This complex mix of essentials comes into sharper focus thanks to the perspectives shared by local officials. In this connection, Gonchig, the Governor of Enkhtal Bag, particularly stressed further developments in the agriculture sector and job creation through processing facilities. His view highlights the belief that the economic dynamism spurred by these developments is significantly required in fostering the contentment of the community. Gonchig believes in leveraging the area's resources, stating, "*Given our ample resources suitable for integrated agriculture and animal husbandry, the construction of a processing facility emerges as a vital step forward.*"

Besides, on the service and infrastructure front, satisfaction is derived from activities such as agriculture and infrastructure development, as brought out by the Governor of Bayan Ulziit Bag, Altanzul, and the Head of the Governor's office, Delgerjargal. Such community involvement in agriculture found satisfaction when Altanzul rightly emphasizes and says, *"Everybody is engaged in agriculture and activities to do farming and beekeeping where they labor themselves, are advantages of Orkhon Soum*." Delgerjargal makes a note of the achievements in terms of infrastructural development amidst the acknowledged environmental challenges: "*The infrastructure of roads and clean sewage networks necessary for the development of production has been developed."*

Furthermore, Batchimeg, head of the Finance Department, brings attention to the gaps in education and healthcare, underlining the critical nature of these services for resident satisfaction. Batchimeg's comments on infrastructure's role in providing business opportunities and a peaceful life underscore the multifaceted approach needed to enhance satisfaction levels, "*The proximity to the central urban areas along with developed communication and connections is an advantage*."

The Orkhon Soum native's insights, represented by its officials, suggest the range of factors that contribute to residents' satisfaction in this area. The economic implications of agriculture and processing facilities job creation, as outlined by Gonchig, are the most crucial. Delgerjargal and

Altanzul include infrastructural and environmental factors together with the community's self-sufficiency in agriculture and approach essence analytical while addressing relevant question. Batchimeg mentions the community's need for education and healthcare access, alluding to the fact that elimination of the identified corruption-affected public service gap requires good governance. These factors shed light on the interconnectedness of economic, infrastructural, environmental, and service-related ones that, being interdependent, lead to a satisfying and vibrant community in Orkhon Soum.

Migration movements in Orkhon Soum are dynamic in nature, with influences from both incoming and outgoing flows in populations. Governor Gonchig has observed both in-migration emanating from new residents purchasing property and out-migration, especially among families, which is being witnessed as they seek better educational facilities found in places like Darkhan Soum. Delgerjargal and Batchimeg both identify seasonal migration linked to agricultural activities with residents returning to urban centers in off-seasons for education and jobs and therefore expose the lack of manufacturing, housing, and educational facilities as drivers of migration. The low out-migration rate, accompanied by a high in-migration rate, observed by Governor Altanzul, alludes that Orkhon Soum still has the pull factors, maybe related to its agriculture and rural way of life, that attract people. Taken together, these findings underline the importance of infrastructural and educational development in Orkhon Soum to decline outmigration and retain population, that is, improving the quality of life and economic opportunities at home.

When the key local officials of Orkhon Soum were asked if infrastructural development would indeed be able to contribute enormously to the improvement of the living standard, the idea found full support from every critical local official present, with Gonchig pointing to the broad positive impacts on the community. Altanzul reaffirmed that it would make a positive contribution to living standards. Delgerjargal highlighted the essentiality of infrastructural improvement in terms of connectivity and utility services. To this, Batchimeg agreed and said development in transportation and utilities would mean the difference between good and impaired quality of life.

They draw the main aspects of infrastructure improvement to enhance the living conditions of citizens. Gonchig's priorities are roads, the facilities of educational centers, and kindergartens. Altanzul draws one's attention to the process of housing improvement and the growing of small and medium business, construction and restoration of water channels, and heating. Delgerjargal

stressed the issues of necessary wastewater treatment and better heating systems. In contrast, Batchimeg emphasized the necessity of an integrated system for water and heating to ensure better services to the community.

On the other side, local authorities can outline agriculture and tourism as potential segments that can influence the economic development of Orkhon Soum, though being shown by an array of influences in each of the mentioned industries. Governor Gonchig outlines key influences for agriculture as natural forces and migration. Governor Altanzul underlines value addition to agricultural products. Delgerjargal, who is the Head of the Governor's Office, highlights that the rates of growth and quality among the crop, type of harvest, and volume of vegetables are being developed with added value on processing and intensive animal husbandry. Head of Finance Batchimeg: 'There should be some sort of improvement made in the standards of vegetable and livestock products, along with demand levels in the market and their reasonable prices.'.

Like tourism-related development, Gonchig favors natural landmarks and medicinal lakes; the hard fact remains that there has been no such approach from the governmental policy side, as pointed out by Altanzul. Delgerjargal has reiterated that specific interest should be extended to such sites as Bichigt Rock, Shivee Tsamkhag, and the fossil site in the valley of Hustai because they are pretty rich and of high potential for tourist attraction. Batchimeg underlines the need for solid policy, regulation strategy, and infrastructure preparations that bear fruit in the effective promotion of tourism.

Overall, both sectors bear good potential to contribute much to the local economy if and only when targeted improvement in product value, market strategies, policy framework, and infrastructural development take place. The sayings of such key officials of Orkhon Soum further underline the later.

Finally, critical local officials weighed in on issues concerning local development and the quality of life. Gonchig emphasized low-interest loans that would increase agriculture development. Delgerjargal noted that the agriculture sector should produce more with technology to decrease the manual workforce. Meanwhile, Batchimeg stressed the most important issues that should be highlighted, which are the decisions at a political level, cultural respect among youth, and policy implementation.

To better understand the demographic dynamics (specially about outmigration) in Orkhon Soum, data was collected from the statistical office and analyzed.

The figure 37 shows both the number of people moving out of the soum (outmigration) and moving into the soum (immigration) each year.

The highest net immigration was observed in 2010 (+9) and 2020 (+13), while the largest net outmigration occurred in 2014 (-45) and 2022 (-49).

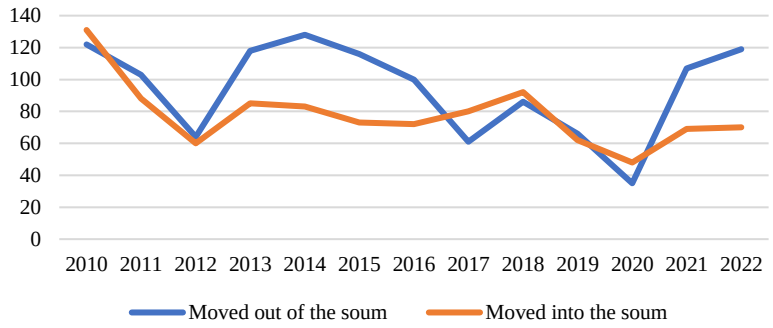

Figure 37: Annual Outmigration and Immigration Trends from Orkhon Soum, 2010-2022 (person)

Source: Own edition, based on Darkhan-Uul Province Statistics Department, 2024

Exploring the 2010-2022 data provided the number of people moving out Orkhon Soum is displayed for every year. Fluctuations without a constant tendency to increase or decrease in any given year. The highest emigration was recorded during the early 2010s and peaked in 2014 when 128 persons left. Post-2014, there seems to be a general trend of decrease in the outmigration number, with some years, like 2017 and 2020, showing relatively lower numbers (61 and 35 individuals moving out, respectively), compared to other years. But there are years like 2022 when outmigration again rises (119 moving out).

From 2010 to 2022, to understand the linear trend of population outmigration from Orkhon soum in a better manner, I applied linear regression analysis (Figure 38). This method was selected for this reason: to search for trends in the number of people leaving the sum each year and to determine how statistically significant these trends are.

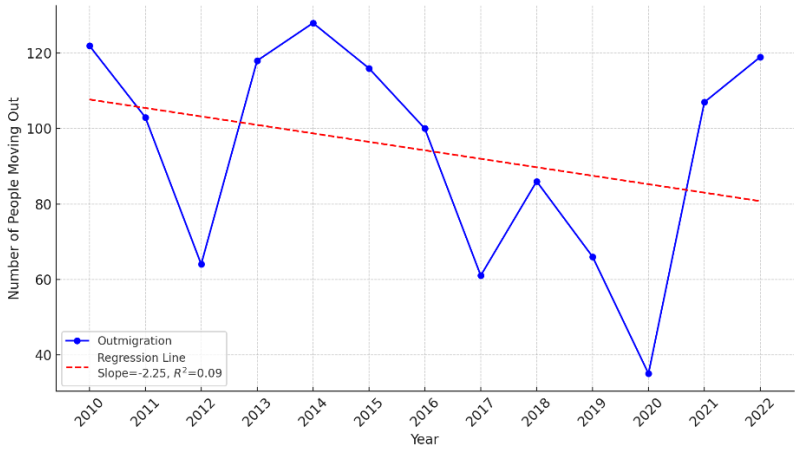

Figure 38: Outmigration from Orkhon soum with Linear Regression, 2010-2022 (person)

Source: Own edition based on Darkhan-Uul Province Statistics Department, 2024

i. In the analysis, the line of regression derived from the points gives a slope of approximately -2.25. From the above, it means that the trend of the population outmigration is decreasing with every year, such that a decrease of about two persons is recorded. This would actually mean that relatively fewer people move out of the soum every year, though the increase is marginal.

ii. The P-value for the outmigration trend is 0.320, it means that the decreasing trend in outmigration can be influenced (since $P > 0.05$). Therefore, based on the analyzed years of data, it could not be confidently said that there is a genuine down tendency of outmigration.

iii. The R^2 value from the regression analysis explains that the year variable, by itself, only explains less than 9% of the variance in the number of outmigration. A low R^2 value in this context means that other factors not caught by this model are most likely the prime movers of the outmigration rates. The year, as a predictor, does not strongly influence outmigration numbers, suggesting the need to consider additional variables or factors that might better explain the migration trends.

SWOT Analysis of Orkhon Soum: The Orkhon Soum economy is firmly based on agriculture through fertile land, a skilled population in agricultural practices, and another added advantage of the distance the city of Darkhan to aid in logistics. Engagement of the community combined with the natural beauty is a potential factor of strength in developing this area in the arena of sustainable agriculture and tourism. However, the economy is fragile under the pressure of high dependency on agriculture, deficient infrastructure, and vulnerability to climatic hazards. On the other hand, an

opportunity comes with the development of the processing industry, enhanced tourism, and improved infrastructure supported by governments and NGOs. However, in Orkhon Soum, more threats other than these, like outmigration, economic instability, and environmental degradation, firmly put a lock on their sustainable development.

PEST Analysis of Orkhon Soum: The development of Orkhon Soum depends on the political factor of governance challenges and supporting policies in agriculture. Economically, it relies entirely on agriculture, with more opportunities available for growth through SMEs and infrastructure development. Socially, the community's strong engagement and the need for better education and healthcare are prominent. Technologically, adopting modern farming techniques and improving infrastructure services, including internet access, could significantly boost agricultural efficiency and overall community welfare.

An integrated PEST-SWOT analysis shows how political, economic, social, and technological factors work together to shape Orkhon Soum's development (Table 7).

Table 7: Orkhon soum's integrated PEST-SWOT analysis

	Strengths	Weaknesses	Opportunities	Threats
political	Effective local governance engagement	Planning and administrative challenges	Supportive political climate for development.	Regulatory challenges and potential corruption.
economical	Strong agricultural base.	Economic diversification needed beyond agriculture.	Market expansion and government support.	Market competition and economic instability.
social	High community engagement and cooperation.	Youth engagement, outmigration and central marketplace absence.	Adapting to consumer behavior changes.	Demographic shifts impacting community stability.
technological	Local know-how and skilled workforce	Need for technological advancement in production and research.	Innovation and technology adoption.	Skills gap in new technologies.

Source: Own research and edition, 2024

Politically, good government relations will increase policy support for agriculture and infrastructure since dealing with governance challenges and exploiting the supportive political climate will moderate bureaucratic inefficiencies. On the economic front, their vegetable and potato

production forms the base of agriculture in the soum. This becomes the bedrock for stability and growth, while diversification and exploration of markets are the strategies against economic vulnerabilities. Socially, Orkhon uses a solid local community and collaboration abilities to solve demographic shifts and the youth engagement agenda. Shifting consumer behaviors are used to enhance social cohesion and economic participation. From a technological perspective, innovations and modern farming techniques applied, and the enhancement of workforce skills drive agricultural productivity and sustainability.

Hypothesis 1: The primary research conducted in Orkhon Soum focused on understanding how local residents prioritize health, employment, and environmental factors in their quality-of-life assessments, considering the influence of demographics like age, gender, and educational background. Results indicated that there were no significant differences within gender and age groups in quality of life perceptions, implying uniform quality of life perception. Though remarkable, there is a correlation between the level of education and the quality of life, whereby higher education seems further to raise the priorities and satisfaction levels of the residents. Also, employment status is another determinant most certain to reflect favoritism, with those holding stable jobs in a better light regarding life quality. Principally, the residents would prioritize factors such as security and justice, environmental quality, and health services, which would underscore their concern for some of the factors that entail safety, clean environments, and accessible health care. Based on these results, Hypothesis 1 is partially supported.

The findings indicate that residents of Orkhon Soum do prioritize aspects related to health, employment, and environment in assessing their quality of life. However, the hypothesis that these priorities vary significantly across different age groups and genders is not supported by the data. Instead, the variations in priorities are significantly influenced by educational background and employment status, suggesting a different set of demographic factors at play than initially hypothesized.

***Hypothesis 2*:** In the case of Orkhon Soum, the survey conducted was to test hypothesis 2, that residents' satisfaction is related to the availability of jobs, accessibility of services, and the condition of infrastructure and community amenities. The results showed high dissatisfaction with the job opportunity, as almost two-thirds (67%) of the respondents were not satisfied with their employment prospects. Access to services experienced levels of dissatisfaction above 50% (52%)

but levels of satisfaction below 40% (37%). For infrastructure conditions and community amenities, the results were mixed but tilted to dissatisfaction, pointing only to possible areas of improvement. The other cause for concern reflected upon by the needs for inclusive governance was the big issue of a lack of representation in decision-making. On the bright side, the social dimension received positive remarks, with many residents being happy about the experiences of social interactions and activities that helped build a strong community among them. In general, the survey was summarized to have the critical focus that included improvement by employment and governance, such that there is community strength in social engagement.

Key officials at the Orkhon Soum level do not only confirm this view, but instead, it is related to job opportunities, availability of services, the state of infrastructure, and the facilities of public life when it comes to community satisfaction. The emphasis lies on the improvement of quality within the agricultural occupations, expansion of needed services including education and health care, and at the same time, paying attention to infrastructure development and development of community facilities, including tourism, all indicating these to be the high priorities for the sake of improving the quality of people's life here. This multifaceted approach underpins the interrelationship between economic, infrastructural, and service-related factors in heightening the community's satisfaction in Orkhon Soum. Once again, this study supports Hypothesis 2, which states that residents' satisfaction will depend on some factors, and so it accepts a high probability, representing the alternative hypothesis.

***Hypothesis 3*:** Based on the interviews and survey data from officials and residents of Orkhon Soum, can infer that the outmigration trend from the region over the past decade is driven by complex, multifactorial influences rather than a clear-cut significant decrease. Officials like Gonchig and Altanzul observed mixed migration movements with both inflows and outflows, driven by factors such as property acquisitions, agricultural activities, and rural lifestyle advantages. Highlighted by officials like Delgerjargal and Batchimeg, seasonal migration patterns were tied to agricultural activities and the pursuit of better educational and employment opportunities during off-seasons in urban centers.

A considerable majority of the community, about 75%, experiences varying degrees of outmigration, with only 25% showing low or insignificant levels. This indicates that outmigration remains a prominent issue. Economic challenges (like limited job opportunities) and infrastructure

deficiencies (such as inadequate housing and educational facilities) are significant drivers behind the migration decisions.

The slope of the regression line is approximately -2.25, suggesting a slight increase in outmigration numbers each year. However, this increase is very modest. The p-value for the slope is 0.320, which is significantly greater than the commonly used threshold of 0.05. This indicates that the increase is not statistically significant. Based on these results, Hypothesis 3 is partially supported.

***Hypothesis 4*:** In testing Hypothesis 4, firm evidence from survey data and sector ratings show that agriculture is the pivot sector for economic development within Orkhon Soum. Indeed, with 43% of respondents identifying its critical role and another 42% rating the highest potential for development, it might be argued to be central to local economic growth. The overwhelming majority, with 93 % respondents, sees agriculture as a potential driver of economic development, showing strong support for the sector. Notably, in the area of farming and crop production, 80% of respondents marked that as fundamental, followed by beekeeping with 7%. Processing facilities, growth through environmental efforts, and community engagement would be the highlights of the key officials' interviews. This accumulative evidence strongly points out the potentiality of the sector to become the economic backbone of Orkhon Soum, holding, in general, broad consensus. Identified challenges need to be taken off for sustainable development. The numerical data and insights clearly support Hypothesis 4, illustrating a broad consensus on the importance of agriculture for Orkhon Soum's economic development.

V. CONCLUSIONS AND RECOMMENDATIONS

Main conclusions: The conducted research in Orkhon Soum has added another layer to this understanding of local perception in the quality of life and shed more light on what factors influence these. In brief, the main findings of the research were as follows:

- ✓ Age and gender, about the views of the quality of life, showed no differences among the various demographics.
- ✓ This group has critical education and job status, relative positive perceptions of their quality of life, and tends to be essential for those with high education and stable jobs. Also, this group attains excellent importance to security, environmental quality, and to some extent, health services.
- ✓ Research findings supported Hypothesis 2, which explains that "job opportunity, accessibility to services, infrastructure, and facilities have a great effect on the satisfaction of residents within Orkhon Soum".
- ✓ However, it can be said that items for infrastructure and employment opportunities give a definite sign of dissatisfaction. In contrast, the sub-section access to services can be said to call for a mixed response. This means social engagement within the community has scored high, which would justify the importance of social contact for total satisfaction.
- ✓ Economic opportunities, accurate property acquisition, and lifestyle preferences have contributed to the outmigration in the Orkhon Soum from rural to urban living.
- ✓ While the change represented is statistically significant, it is small per year, and it remains insignificant. Hence, it gives partial support to Hypothesis 3. The economic difficulties and infrastructural difficulties continue pushing people towards migration.
- ✓ Agriculture is identified as the pivotal sector for economic development in Orkhon Soum, with substantial community recognition of its importance and potential.
- ✓ Agriculture is considered to be playing a pivotal role in economic development. Most residents acknowledged farming and producing crops somewhat, also by keeping bees. There were precise demands for better services of processing and environmental facilities, hence supporting the fourth hypothesis.

Overall, the extensive research and data collected from this respect in Orkhon Soum manifests a clear relationship between the satisfaction of residents and determinants like job opportunities,

quality of infrastructure, accessibility to services, and facilities in the community. It is at this juncture that qualitative insights from local officials and the quantitative survey findings converge to find an assertion in the fact that improvement in agricultural jobs, enhancement of public services, and upgrading infrastructure, along with the leverage of community assets in areas such as tourism, become pivotal for enhancing the quality of life and stabilizing population dynamics of the region. These findings collectively support the hypothesis that these interlinked factors critically influence residents' satisfaction and the overall economic development of Orkhon Soum.

Orkhon Soum provides a particular opportunity for sustainable local economic development within the rich agricultural heritage and strategic location proximity to primary transport links. The large agriculture base in the area and the well-educated and predominantly young population could assist in laying an excellent foundation for growth. Be that as it may, it is not without its hitches, for example, infrastructure requirements, limited industrial diversification, and a high rate of outmigration due to economic and service deficiencies needing strategic intervention.

Recommendations:

- ✓ There should much investment put in place to give room for the application of modern technologies in farming and irrigation systems, which will give a guarantee on the increased productivity and sustainability on the farm. This, therefore, would call for massive investment since 35% of the respondents felt that access to modern farming techniques and technology was a critical area that needed improvement to increase agricultural productivity. This can take the form of subsidies in the prices of advanced machinery or soft terms on its purchase, construction of irrigation facilities, etc.
- ✓ Since 30% of respondents noted limited access to markets as a major barrier, improving road connectivity and developing logistical hubs can help farmers reach wider markets, which is essential for boosting local incomes and reducing economic-driven outmigration.
- ✓ With 52% of the population's dissatisfaction in access to healthcare and education, these high dissatisfaction rates in access to essential services would make it imperatively needed to prioritize construction and staffing new schools and clinics order in order to enhance access to enhance their satisfaction and quality of life.
- ✓ To 48% of the responses of the survey whose answer pointed to housing and affordability of the same, they bring into the fore the need for the development of new housing projects

and improvements in utility infrastructures, like water and electricity supplies, to support the growing demand.

- ✓ Even though agriculture is backbone of Orkhon soum's economy, need to diversify the Local economy.
- ✓ As economic stability was a top concern, with 24% rating available job opportunities and services negatively, fostering SMEs in sectors like agro-processing can create jobs and add value to local agricultural products.
- ✓ Given the natural beauty and cultural assets of Orkhon, developing eco-tourism and cultural tourism could diversify the economic base.
- ✓ Strengthen social networks through community-based projects and participatory governance models that include local residents in decision-making processes.
- ✓ Implement programs that engage the youth, such as vocational training aligned with local economic needs, and enhance educational facilities to prevent youth outmigration. Tailored to local industries, these programs could address the skills gap identified in the survey, where modern agricultural techniques and market adaptation are needed.
- ✓ All these locales find that the local government places the highest responsibility in improving conditions (weighted average score of 2.47). Critical in this will be policies that will align support toward economic and infrastructure projects.
- ✓ So, the implementation of tax incentives and business support to those who invest in Orkhon with a focus on sustainability in business practice and employment generations could be directly a response to 16% of the participants needing support in economic policy.

VI. SUMMARY

This research is identified by the thesis the economic development potential of Orkhon Soum in Darkhan-Uul Province, Mongolia. The paper aims to identify the understanding of local quality-of-life factors, migration trends, and respective resident satisfaction of the area as part of the data, which is gathered for the purposeful use of suggested customized strategies towards its sustainable growth.

In this regard, the literature review part of this thesis explores the concept of Local Economic Development (LED), focusing on the critical role it plays in empowering local communities, particularly in regions like Orkhon Soum of the Darkhan-Uul province in Mongolia. It explores how LED strategies, when matched with the specificity of the socio-economic characteristics and challenges of given areas, can enable tremendous economic growth and development.

The given thesis is an overview of the country, its geographic, demographic, and administrative traits. This territory is the second-largest landlocked country in the world, characterized by massive, scarcely populated areas. It is divided into 21 aimags and a capital city, Ulaanbaatar. Further on, these are divided into soums and bags. The thesis elaborates on the extreme climate of Mongolia, its richness of heritage in pastoral nomadic, and its diverse ethnic makeup. Economically, the transition of Mongolia has taken place from a nomadic and agricultural base to a market-driven economy that primarily depends on mining. This sector has now come to be an integral part of the GDP of Mongolia and international trade; with this, it has exposed it to vulnerability and dependence on global commodity prices. It does outline the requirement of inclusive growth to fill in the urban-rural gaps in the country.

This research assesses these using LED to understand its role in strengthening economic vigor at the regional levels through local resource use and the involvement of its stakeholders in ensuring these take place. Vision-2050, therefore, bequeaths long-term transformation of the two landscapes, economic and social, through balanced regional development promotion, effected by creating specialized regions that will tap into such sectors as mining, agriculture, technology, and tourism, thereby becoming the stimulus for growth and competitiveness.

Exploring the local economic development of Orkhon Soum: a mixed-methods study toward social and economic development through quantitative and qualitative data collection. Data collection included a review of secondary data emanating from existing literature. In contrast, the primary

data was obtained through a well-designed questionnaire administered to 101 residents and four government officials of key stakeholders through an in-depth interview. The analysis was done through the use of statistical techniques to describe the quantitative survey data and thematic analysis of qualitative data to draw patterns and actionable insights informing development strategies and policies tailored to the needs and aspirations of the community.

Darkhan-Uul Province in Mongolia, encompassing the study area of Orkhon Soum, is a key economic hub characterized by its industrial capabilities, rich mineral resources, and strategic location. The province has a highly diversified economy with solid infrastructure supported by manufacturing, agriculture, and mining activities. While Darkhan Soum is functionally oriented as an industrial and commercial center, Orkhon, Khongor, and Shariin Gol Soums are mainly agriculturally and naturally resource sector-based. Orkhon Soum provides an exciting mix of both urban and rural life, where much emphasis has been put into agriculture but more so on potatoes and vegetables, which are quite crucial in the national supply of vegetables in Mongolia. On the other side, the Orkhon population is youthful in a way that the demographic enjoyed full-time jobs in the majority. This reflects the solid agricultural identity and community activity.

Thesis research on Orkhon Soum explores the link between quality of life and demographic factors such as age, gender, education, and employment among 101 residents. The study reveals that higher education and employment status significantly influence life satisfaction, with most respondents rating their quality of life as “Fair” or “Good”. While gender and age have minimal impact, the community prioritizes economic stability, infrastructure, and social connections, with educational and employment opportunities playing key roles in shaping residents' perceptions of quality of life.

Based on survey analysis paints a picture of a community that, while generally satisfied in social terms, faces significant challenges in economic and infrastructural areas. Addressing these challenges could not only improve satisfaction but also potentially curb the trends of outmigration and enhance overall community well-being in Orkhon Soum.

Orkhon Soum is experiencing significant outmigration, particularly among younger, economically active residents due to limited job opportunities, poor economic conditions, and inadequate infrastructure and services. Key factors driving this trend include insufficient access to quality healthcare, education, and essential utilities. Statistical analysis shows strong correlations between

these dissatisfaction factors and the decision to migrate, indicating that improvements in employment, infrastructure, and services could help reduce outmigration.

Agriculture stands as the economic backbone of Orkhon Soum, with farming and livestock dominating the local economy. Despite challenges such as limited access to modern technologies and market issues, there's strong potential for growth if these hurdles are addressed. Community and governmental support are crucial for enhancing agricultural productivity and economic stability. Effective strategies include integrating advanced farming practices, improving infrastructure, and enacting supportive policies. This would not only boost agricultural outputs but also stabilize the local economy and enhance the community's quality of life, reducing the need for outmigration. The research underscores agriculture's central role in driving Orkhon Soum’s economic development and suggests a focused path for leveraging its potential.

Additionally, the interviews underscored the interconnectedness of economic, infrastructural, environmental, and service-related factors in shaping the quality of life in Orkhon Soum. Addressing these interconnected challenges through a holistic approach involving government, business, and community stakeholders is crucial for the sustainable development of the region.

Summing it up, it may be said that the research carried out in Orkhon Soum presented insight into residents' perception of quality life, which reports no significant influence of age and gender but noted the effect that education and employment had on the status of the residents. The salient findings are positive perceptions of life quality, strongly associated with higher education, stable jobs, and reasonable access to health services. The study also supports the linking of resident satisfaction with job availability, infrastructure quality, and community amenities but makes a note that significant dissatisfaction takes place over employment opportunities. It is this slight increase in outmigration that has been associated with economic opportunities and lifestyle preferences. Agriculture is identified as the economy's main driver, hence the need for improved agricultural infrastructure. Modern technologies should comprise improved agricultural productivity, enhanced access to necessary services, and the vital development of infrastructures. It would diversify the economy to bring balance favored by both the stabilization of the population and growth.

VII. ACKNOWLEDGEMENT

My respectful acknowledgment goes to my supervisor, Dr. habil Krisztián Ritter, for his supervision constant guidance, benevolent encouragement, and friendly critique throughout the preparation, guidance, and advice that carried me through all the stages of writing my thesis, from conception to completion.

I would like to express my gratitude to Dr. Farkas Tibor, Professor, and Head, Department of Rural Development and Sustainable Economy, MATE, for his scholarly guidance, valuable advice, and kind attention.

Additionally, I would like to express my appreciation to all the professors who have enriched my education through their teachings and organized insightful field trips.

My sincere gratitude goes to the Orkhon soum's resident and the local government representatives for generously shared their time and knowledge during my interviews and assisted diligently in data collection.

Finally, I would like to thank my family and friends for their support and care throughout my research work.

VIII. REFERENCES

1. Adjei-Bamfo, P., Maloreh-Nyamekye, T., & Ahenkan, A. (2019). The role of e-government in sustainable public procurement in developing countries: A systematic literature review. *Resources, Conservation and Recycling, 142*, 189-203.
2. Ajala, O. (2008). Tourism development as a strategy in regional planning. *African Research Review, 1*(1), 76-95.
3. Antonelli, C., & Crespi, F. (2021). Tax incentives for R&D: Supporting innovative scale-ups? *Academic Oxford Journals*. https://academic.oup.com
4. Asian Development Bank. (2021). *Decentralization, local governance, and local economic development in Mongolia.* http://dx.doi.org/10.22617/TCS210319-2
5. Asian Development Bank. (2022). Mongolia: Urban sector fact sheet.
6. Barca, F. (2009). An agenda for a reformed cohesion policy: A place-based approach to meeting European Union challenges and expectations. *Independent Report*.
7. Bardhan, P. K. (1993). Economics of development and the development of economics. *Journal of Economic Perspectives, 7*(2), 129-142.
8. Bau', V. (2016). Citizen engagement in peacebuilding: A communication for development approach to rebuilding peace from the bottom-up. *Progress in Development Studies, 16*(4), 348-360.
9. Beer, A., Haughton, G., & Maude, A. (2003). *Developing locally: An international comparison of local and regional economic development*. Policy Press.
10. Betz, M., Partridge, M., Kraybill, D., & Lobao, L. (2012). Why do localities provide economic development incentives? Geographic competition, political constituencies, and government capacity. *Growth and Change, 43*(3), 361-391.
11. Blakely, E. J., & Bradshaw, T. K. (2002). *Planning local economic development: Theory and practice*. SAGE Publications.
12. Blakely, E. J., & Leigh, N. G. (2010). *Planning local economic development: Theory and practice*. SAGE Publications.
13. Borrás, S., & Edquist, C. (2013). The choice of innovation policy instruments. *Technological Forecasting and Social Change, 80*, 1513-1522.

14. Colletis-Wahl, K., Corpataux, J., Crevoisier, O., Kebir, L., Pecqueur, B., & Peyrache-Gadeau, V. (2005). The territorial economy: A general approach in order to understand and deal with globalization. *Journal*, 2, 21-29.
15. Concept of Regional Development of Mongolia. (2001).
16. Cox, K., & Mair, A. (1988). Locality and community in the politics of local economic development. *Annals of the Association of American Geographers, 78*(2), 307-325.
17. Dai, Z., Shen, X., & Guo, L. (2021). Technological innovation on economic growth from the perspective of investment-oriented environmental regulations: considering the threshold effect of China human capital. *Applied Economics, 53*, 4632-4645.
18. Dale, R. (2000). Regional development programmes. *Public Management: An International Journal of Research and Theory, 2*, 499-524.
19. Dempsey, S. (2010). Critiquing community engagement. *Management Communication Quarterly, 24*, 359-390. https://doi.org/10.1177/0893318909352247.
20. Dixon, R. (1998). Mitigation and adaptation strategies for global change. *Mitigation and Adaptation Strategies for Global Change, 3*, 459-464.
21. Dorokhov, M. (2021). The impact of human capital on innovative development of the region. *Scientific notes of the Russian Academy of Entrepreneurship*.
22. Dresser, R. (2017). A deep dive into community engagement. *Narrative Inquiry in Bioethics, 7*, 41-45.
23. ESPON. (2017). Transport and accessibility in European regions.
24. Estache, A., & Fay, M. (2007). Current debates on infrastructure policy. *World Bank Policy Research Working Paper, 4410*.
25. Ettlinger, N. (2001). Local economic development.
26. Etzkowitz, H., & Leydesdorff, L. (2000). The dynamics of innovation: from National Systems and "Mode 2" to a Triple Helix of university-industry-government relations. *Research Policy, 29*(2), 109-123.
27. European Commission. (2020). *Cohesion policy and Europe's recovery*: Making regions greener, more digital, more resilient.
28. Food and Agriculture Organisation. (2008). *Mongolian Forestry Sector*. Retrieved March 24, 2009, from http://www.fao.org/docrep/w8302e/w8302e05.htm

29. Friedmann, J. (1964). Regional development in post-industrial society. *Journal of the American Planning Association, 30*, 84-90.
30. Galor, O., & Tsiddon, D. (1997). The distribution of human capital and economic growth. *Journal of Economic Growth, 2*, 93-124.
31. Gambarotto, F., & Maggioni, M. (1998). Regional development strategies in changing environments: An ecological approach. *Regional Studies, 32*, 49-61.
32. Guiso, L., Sapienza, P., & Zingales, L. (2002). Does local financial development matter?. *NBER Working Paper Series*. https://doi.org/10.2139/ssrn.308569.
33. Guo, R. (1996). Border-regional economics.
34. Guobin, Y. (2005). A computer simulated method of regional economic formation and development. *Computer Engineering*.
35. Swinburn, G., Goga, S., & Murph, F. (2006). Local economic development: A primer developing and implementing local economic development strategies and action plans.
36. Hilpert, U. (2006). Knowledge in the region: Development based on tradition, culture and change. *European Planning Studies, 14*, 581-599.
37. Hodge, G. A., & Greve, C. (2007). Public-private partnerships: An international performance review. *Public Administration Review, 67*(3), 545-558.
38. Hodge, G. A., & Greve, C. (2007). The complex world of public-private partnerships for infrastructure. *Journal of Economic Policy Reform, 10*(3), 123-143. https://doi.org/10.1080/17487870701517390
39. Hutchinson, J., & Foley, P. (1994). Partnerships in local economic development: The management issues. *Management Research News, 17*, 50-54. https://doi.org/10.1108/EB028360.
40. Innes, J., & Booher, D. (1999). Consensus building and complex adaptive systems. *Journal of the American Planning Association, 65*, 412-423.
41. International Economic Development Council. (n.d.). What is economic development? [Website]
42. Jiu-we, S. (2001). Study to effect of regional economics on development of state and localities. *On Economic Problems*.
43. Kačar, B., Curić, J., & Ikić, S. (2016). Local economic development in theories of regional economies and rural studies.

44. Kostyrko, D. (2023). Clarification of the "regional development strategy" concept. *Proceedings of Scientific Works of Cherkasy State Technological University Series Economic Sciences*.
45. Lambrechts, K., & Alden, C. (2005). Regionalism and regionalisation. 288-312.
46. Legislation of Mongolia (https://legalinfo.mn/mn/, http://forum.parliament.mn/)
47. Levine, R. (1999). Law, finance, and economic growth. *Journal of Financial Intermediation, 8*, 8-35.
48. Lobkova, E., Lobkov, K., & Mehta, N. (2021). Strategic planning of regional development as an instrument of ensuring stability and economic security of a territory. *E3S Web of Conferences*.
49. Lorenz, D. (1989). Trends towards regionalism in the world economy. *Inter economics, 24*, 64-70.
50. Lukkarinen, M. (2005). Community development, local economic development and the social economy. *Community Development Journal, 40*(4), 419-424. https://doi.org/10.1093/cdj/bsi086
51. Lundberg, H., & Johanson, M. (2010). Network strategies for regional growth.
52. Madzivhandila, T., & Musara, M. (2020). Taking responsibility for entrepreneurship development in South Africa: The role of local municipalities. *Local Economy: The Journal of the Local Economy Policy Unit, 35*, 257-268. https://doi.org/10.1177/0269094220922820.
53. Martin, R., & Sunley, P. (1998). Slow convergence? The new endogenous growth theory and regional development. *Economic Geography, 74*, 201-227.
54. Mathur, V. (1999). Human capital-based strategy for regional economic development. *Economic Development Quarterly, 13*, 203-216.
55. Ministry of Finance. (n.d.). *Sustainable Livelihood-3* project implementation unit.
56. Mongolia. (1992, as last amended in 2023). *Constitution of Mongolia*. Ulaanbaatar, Mongolia: Mongolian Legal Information Center.
57. Mongolia. (2006). *Constitution and the Law on Administrative and Territorial Units and their Governance*.
58. Mongolia. Parliament. (2001). *Regional Development Concept,* ratified by Parliament Resolution No. 57.

59. Mor Barak, M. E. (2017). *Managing diversity: Toward a globally inclusive workplace*. Sage Publications.
60. Nel, E. (2001). Local economic development: A review and assessment of its current status in South Africa. *Urban Studies, 38*.
61. OECD Local Economic and Employment Development (LEED) Programme. (n.d.).
62. OECD. (2019). Regional outlook 2019: Leveraging megatrends for cities and rural areas.
63. Ojha, H., Ford, R., Keenan, R., Race, D., Vega, D., Baral, H., & Sapkota, P. (2016). Delocalizing communities: Changing forms of community engagement in natural resources governance. *World Development, 87*, 274-290.
64. OECD (2006). The new rural paradigm: Policies and governance.
65. Özcan, G. (2000). Local economic development, decentralisation, and consensus building in Turkey. *Progress in Planning, 54*, 199-278.
66. Parilla, J., & Liu, S. (2018). Examining the local value of economic development incentives. *Brookings*. https://www.brookings.edu/research/examining-the-local-value-of-economic-development-incentives/
67. Parker, G., & Costa, K. (2021). Drivers for local economic development in South African municipalities. https://doi.org/10.31730/osf.io/x4utw.
68. Pike, A., Rodriguez-Pose, A., & Tomaney, J. (2007). What kind of local and regional development and for whom? *Regional Studies, 41*(9), 1253-1269.
69. Pike, A., Rodríguez-Pose, A., & Tomaney, J. (2011). *Handbook of local and regional development*. Routledge.
70. Pike, A., Rodríguez-Pose, A., & Tomaney, J. (2017). *Local and regional development*. Routledge.
71. Porter, M. E. (1995). The competitive advantage of the inner city. *Harvard Business Review, 73*(3), 55-71.
72. Revoltella, D., Brutscher, P., Tsiotras, A., & Weiss, C. (2016). Linking local business with global growth opportunities: The role of infrastructure. *Oxford Review of Economic Policy, 32*, 410-430.
73. Rodríguez-Pose, A., & Tijaja, J. (2012). Local economic development as an alternative approach to economic development in Sub-Saharan Africa. *African Journal of Economic and Management Studies*.

74. Rodriguez-Pose, A., & Tijmstra, S. A. R. (2009). On the emergence and significance of local economic development strategies. *Small Business Economics, 32*(2), 131-148.
75. Rodríguez-Pose, A. (2018). The revenge of the places that don't matter (and what to do about it). *Cambridge Journal of Regions, Economy and Society, 11*(1), 189-209.
76. Rogerson, C. (2002). Planning local economic development. *Africa Insight, 32*, 39-45.
77. Roehrich, J. K., Lewis, M. A., & George, G. (2014). Are public-private partnerships a healthy option? A systematic literature review. *Social Science & Medicine, 113*, 110-119.
78. Saleh, H., Surya, B., Ahmad, D. N. A., & Manda, D. (2020). The role of natural and human resources on economic growth and regional development: With discussion of open innovation dynamics. *Journal of Open Innovation: Technology, Market, and Complexity, 6*(4), 103. https://www.mdpi.com/2199-8531/6/4/103
79. Sankaran, S. (2013). Business incubator for local economic development.
80. Savas, E. S. (2000). *Privatization and public-private partnerships*. Chatham House Publishers.
81. Servaes, J. (1999). *Communication for development: One world, multiple cultures*. Hampton Press.
82. Shahor, T. (2015). Economic development.
83. Shehu, H. (2018). The impact of globalization on Nigerian rural-agricultural economy. *European Journal of Social Sciences*.
84. Schmitz, H. (2005). *Value chain analysis for policy-makers and practitioners*. International Labour Organization.
85. Sonenshein, R. J. (1996). *Politics in black and white: Race and power in Los Angeles*. Princeton University Press.
86. Statistical Yearbook of Mongolia, 2021.
87. Statistical Yearbook of Mongolia, 2022.
88. Steinnes, D. (1990). An analysis of infrastructure provision and local economic development policy. *Community Development, 21*, 33-53.
89. Storper, M. (1995). The resurgence of regional economies, ten years later: The region as a nexus of untraded interdependencies. *European Urban and Regional Studies, 2*, 191-221.
90. Storper, M. (1997). *The regional world: Territorial development in a global economy*. Guilford Press.

91. Trouvé, A., Berriet-Solliec, M., & Déprés, C. (2007). Charting and theorising the territorialisation of agricultural policy. *Journal of Rural Studies, 23*, 443-452.
92. United Nations Development Programme. (2003). Local economic development: A primer.
93. Vazquez-Barquero, A. (2002). *Endogenous development: Networking, innovation, institutions and cities*. Routledge.
94. Vision-2050 Mongolia's long-term development policy document, 2020.
95. White, S., Bingham, R., & Hill, E. (2012). Financing economic development in the 21st century. https://doi.org/10.4324/9781315704326.
96. World Bank. (n.d.). Local economic development. Retrieved from World Bank Documents.
97. World Bank. (2003). *Land resources and their management.* Environmental Monitor. Washington DC: World Bank.
98. World Bank Group. (2009). *2009 World Development Indicators*. Retrieved March 17, 2010, from http://blogs.worldbank.org/growth/world-development-indicators-2009
99. Yescombe, E. R. (2007). *Public-private partnerships: Principles of policy and finance*. Elsevier.

IX. LIST OF TABLES AND FIGURES

LIST OF TABLES

LIST OF FIGURES

Szent István Campus, Gödöllő
Address: H-2100 Gödöllő, Páter Károly utca 1.
Phone.: +36-28/522-000 Homepage: https://godollo.uni-mate.hu

X. APPENDICES

Appendix 1: Research Questionnaire

1. What is your gender?
   - Male
   - Female
2. What is your age group?
   - Under 18
   - 18-25
   - 26-35
   - 36-45
   - 46-55
   - 56-65
   - Above 65
3. What is your education level?
   - High school
   - Vocational
   - Bachelor's degree
   - Master's degree
   - Doctor's degree
   - Other (please specify): _____
4. What is your employment status?
   - Student
   - Self-employed entrepreneur
   - Full-time job
   - Part-time job
   - Herder
   - Unemployment
   - Other (please specify): _____
5. What are your main impressions about Orkhon Soum (write the first 3 ideas/words):
   ……..
6. What are advantages of Orkhon Soum?
   ……..
7. What are disadvantages of Orkhon Soum?
   ……..

8. What are the main problems of Orkhon soum (please indicate maximum up to the three most important)?
    - Infrastructure Issues
    - Economic Challenges
    - Limited employment opportunities
    - Inadequate educational facilities and resources
    - Limited access to quality healthcare services
    - High crime rates or concerns about public safety
    - Issues with law enforcement and security measures
    - Environmental Issues
    - Lack of Community Services and Facilities
    - Perceived lack of effective local government response
    - Other (please specify): _____
9. How would you rate your overall quality of life in Orkhon Soum?
    - Very Good
    - Good
    - Fair
    - Poor
10. What aspects of life in Orkhon Soum do you consider most important for your overall quality of life? (Select up to three)
    - Economic stability
    - Social connections and community
    - Education and learning opportunities
    - Healthcare services
    - Safety and security
    - Cultural and recreational activities
    - Environmental quality
    - Other (please specify): _____
11. Please indicate to what extent each of the following factors influence your perception of quality of life in Orkhon Soum: 1-4 scale: Strongly Positive-4, Somewhat Positive-3, Somewhat Negative-2, Strongly Negative-1

№	Factors	1	2	3	4	No info
1	Economic stability:					
2	Social connections and community:					
3	Education and learning opportunities:					
4	Healthcare services:					
5	Safety and security:					
6	Cultural and recreational activities:					
7	Environmental quality:					
8	General infrastructure:					
9	Available job opportunities and services:					
10	Other *you think important* (please specify): ……...					

12. Could you please rate your satisfaction with the following factors in Orkhon Soum on a scale of 1 to 4? (1- Very Dissatisfied, 2-Dissatisfied, 3-Satisfied, 4- Very satisfied)

№	Factors	1	2	3	4	No info
1	Job Opportunities					
2	Accessibility to Essential Services (e.g., healthcare, education, banking)					
3	Housing Options					
4	Infrastructure Conditions (roads, electricity, water supply)					
5	Community Amenities (parks, recreational facilities, public spaces)					
6	Social Engagement					
7	Representation in Decision-Making					
8	Other *you think important* (please specify): ……...					

13. What activities/sectors in your opinion could serve as the basic of local economic development?

    ……

14. On a scale from 1 to 4, where 1 represents 'Least Potential' and 4 represents 'Highest Potential', please rate the following factors in terms of their potential for driving local economic development in Orkhon Soum:

№	**Factors**	**1**	**2**	**3**	**4**	**No info**
1	Infrastructure Development					
2	Tourism Potential					
3	Small Business and Entrepreneurship Support					
4	Agriculture					
5	Community Engagement and Empowerment					
6	Diversification of Economic Activities					
7	Land Use Planning and Management					
8	Access to Quality Healthcare and Education					
9	Other *you think important* (please specify): ……...					

15. In your opinion, can agriculture serve as a viable avenue for local economic development in Orkhon Soum?
    - Yes, Strongly Agree
    - Yes, Somewhat Agree
    - No, Somewhat Disagree
    - No, Strongly Disagree

16. What do you believe are the key determinants influencing the potential of agriculture as a driver of local development in Orkhon Soum?
    - Availability of arable land
    - Access to modern farming techniques and technology
    - Availability of water resources for irrigation
    - Market demand and access to markets
    - Government policies and support for agriculture
    - Climate and environmental conditions
    - Other (please specify them all): _____

17. Which agricultural activities do you think are most crucial for economic growth in this region?
    - Crop cultivation
    - Animal Husbandry
    - Agroforestry
    - Horticulture
    - Cashmere Production
    - Dairy Production
    - Herbal and Medicinal Plant Harvesting
    - Other (please specify them all): _____

18. What are the main challenges hindering agricultural growth in Orkhon Soum?
    - Lack of access to modern agricultural technology
    - Limited access to markets and buyers
    - Insufficient irrigation or water resources
    - Poor infrastructure (roads, storage facilities, etc.)
    - Climate change-related issues
    - Other (please specify them all): _____

19. What is the prevailing trend of outmigration from Orkhon Soum in Darkhan-Uul Province?
    - High Outmigration
    - Moderate Outmigration
    - Low Outmigration
    - No Significant Outmigration

20. What do you believe are the underlying factors contributing to the outmigration pattern observed in Orkhon Soum?
    - Limited economic opportunities
    - Lack of access to quality education and healthcare
    - Insufficient infrastructure and basic services
    - Social and cultural factors

- Environmental factors
- Other (please specify them all): _____

21. What do you believe are the critical areas of infrastructure improvement that hold the potential to positively impact residents' living conditions in Orkhon Soum?
    - Road and transportation networks
    - Healthcare facilities and services
    - Education facilities and programs
    - Water and sanitation systems
    - Housing and housing affordability
    - Other (please specify them all): _____

22. Please rate the following factors in terms of their influence on your decision to migrate from Orkhon Soum and their potential to encourage you to stay. Use a scale from 1 to 4, where 1 signifies 'Least Influence/Encouragement' and 4 signifies 'Highest Influence/Encouragement':

Factors	**Influence on Migration**				**Potential to Encourage Stay**			
Economic Factors:	1	2	3	4	1	2	3	4
1. Job Opportunities								
2. Income and Economic Prospects								
3. Diverse Economic Activities								
Social Factors:	1	2	3	4	1	2	3	4
4. Access to Social Services								
5. Community Engagement								
6. Family and Social Networks								
Cultural Factors:	1	2	3	4	1	2	3	4
7. Cultural Preservation								
8. Participation in Cultural Activities								
9. Sense of Cultural Identity								

23. In your opinion, who holds the primary responsibility for improving local conditions in Orkhon Soum? (Select first three with order)

- Local government authorities (provincial level)
- Soum government authorities
- Community members and local residents
- Business and entrepreneurial ventures
- Non-governmental organizations (NGOs)
- National government or policymakers
- Other (please specify them all): _____

Appendix 2: Interview questions

1. Please introduce yourself and how long have you been in your current position overseeing Orkhon Soum, and could you provide a brief summary of your professional background and experience relevant to this role?
2. Could you provide an overview of the economic, social, and environmental trends in Orkhon Soum over the past one to two decades, highlighting key changes or developments in each of these areas?
3. What are the key strengths, weaknesses, opportunities, and threats you would identify for Orkhon Soum when considering its current status and future prospects?
4. How satisfied are residents of Orkhon Soum with their local circumstances in your opinion/based on your experience?
5. What are the primary determinants influencing residents' overall satisfaction with their local circumstances, including job opportunities, services, and general quality of life in Orkhon Soum?
6. What factors determine if agriculture can boost Orkhon Soum's local economy?
7. What is the potential for tourism to boost Orkhon Soum's economy, and what factors affect this possibility?
8. Could you provide insights into the prevailing trend of outmigration from Orkhon Soum in Darkhan-Uul Province, as you observe it?
9. Can you explain why people are leaving Orkhon Soum and what might be stopping them from leaving?
10. In your view, can infrastructural development significantly contribute to an enhanced quality of life for residents in Orkhon Soum?
11. What do you believe are the critical areas of infrastructure improvement that hold the potential to positively impact residents' living conditions in Orkhon Soum?
12. Is there anything else you would like to share or any additional insights you think are relevant to understanding the development and quality of life in Orkhon Soum?

HUNGARIAN UNIVERSITY OF AGRICULTURE AND LIFE SCIENCES

Szent István Campus, Gödöllő
Address: H-2100 Gödöllő, Páter Károly utca 1.
Phone.: +36-28/522-000 Homepage: https://godollo.uni-mate.hu

Appendix 3: Student declaration

DECLARATION

on authenticity and public assess of mater's thesis

Student's name:	Munkhchimeg Purev
Student's Neptun ID:	F4ABVS
Title of the document:	The possibilities of local economic development in Orkhon soum of Darkhan-Uul province, Mongolia
Year of publication:	2024
Department:	Department of Rural and Regional Development

I declare that the submitted master's thesis is my own, original individual creation. Any parts taken from an another author's work are clearly marked, and listed in the table of contents.

If the statements above are not true, I acknowledge that the Final examination board excludes me from participation in the final exam, and I am only allowed to take final exam if I submit another master's thesis.

Viewing and printing my submitted work in a PDF format is permitted. However, the modification of my submitted work shall not be permitted.

I acknowledge that the rules on Intellectual Property Management of Hungarian University of Agriculture and Life Sciences shall apply to my work as an intellectulal property.

I acknowledge that the electric version of my work is uploaded to the repository sytem of the Hungarian University of Agriculture and Life Sciences.

Place and date: 2024. 04.18, Gödöllő

Student's signature

HUNGARIAN UNIVERSITY OF AGRICULTURE AND LIFE SCIENCES

Szent István Campus, Gödöllő
Address: H-2100 Gödöllő, Páter Károly utca 1.
Phone.: +36-28/522-000 Homepage: https://godollo.uni-mate.hu

Appendix 4: Consultation declaration

STATEMENT ON CONSULTATION PRACTICES

As a supervisor of Munkhchimeg Purev, F4ABVS, I here declare that the master's thesis has been reviewed by me, the student was informed about the requirements of literary sources management and its legal and ethical rules.

I recommend/don't recommend[1] the final master's thesis to be defended in a final exam.

The document contains state secrets or professional secrets: yes no[2]

Place and date: Gödöllő, 25.04.2024.

Internal supervisor

[1] Please underline applicable.
[2] Please underline applicable.

Appendix 5: Abstract of thesis

Thesis title: The possibilities of local economic development in Orkhon soum of Darkhan-Uul province, Mongolia

Author name: Munkhchimeg Purev

Course, level of education: MSc. Rural Development and Engineering

Host Department/Institute: Institute of Rural Development and Sustainable Economy

Primary thesis advisor: Dr. habil Krisztián Ritter PhD
Institute: Institute of Rural Development and Sustainable Economy
Department: Department of Rural and Regional Development

This thesis explores the room of local economic development in the region of Orkhon Soum. Though this region is the most productive agriculturally and has been so since quite some time, the recent past has seen many people leave the area. The study will aim at integrating local development strategies into broader economic initiatives and using Orkhon Soum at full throttle to align it with regional growth objectives.

Therefore, this present study seeks to appraise the quality-of-life factors conditioning resident satisfaction and hence outmigration dynamics. According to the background that comes with it, this current contribution postulates that modernized agriculture, supported by the modernization of built infrastructure, might be the driving factor for local economic revitalization. Findings point out that educational level and employment status play a determinant role in quality of life perceptions, while age and gender are not major determinants. Those who are stable in employment look at their life quality in a favorable manner. Notable dissatisfaction is in relation to job opportunities, infrastructure, and accessibility of services, reflecting that high areas need redress.

The study supports strategic investments in agriculture and diversifying the local economy through improved tourism and the development of small and medium enterprises. The study supports proposals for the development of higher education and vocational training, health care, and housing to improve the quality of life for residents and, at the same time, reduce outmigration.

This thesis contributes to the discourse on localized economic development, proposing actionable strategies for regions similar to Orkhon Soum facing analogous challenges, thereby offering a framework that can be adapted and applied in comparable contexts.

Keywords: Local economic development, Orkhon soum, Quality of life, Agriculture, Outmigration, Satisfaction, Infrastructure.